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Current Demographic Analysis

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Excellence d'excellence

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Note of Appreciation

Symbols

.. figures not available.

... figures not appropriate or not applicable.

– nil or zero.

-- amount too small to be expressed.

The last data analysed in this report were those available at time of writing.

Preface

The 1991-92 fiscal year marked the first time in the existence of the *Régie des Rentes du Québec* (Quebec Pension Plan) that more was paid out to retirees than was received in pension contributions. Although this does not come as a surprise, it is one of the first examples of how the ageing of the population is affecting the economic life of the country.

The inevitable and very predictable increase in the size of our elderly population in years to come clearly will necessitate changes in the country's existing social and economic policies, programs and institutions. This report summarizes available information about the elderly and soon-to-be elderly population in Canada, with a view to informing the discussions of current trends and their implications for the future.

Ivan P. Fellegi
Chief Statistician of Canada

Acknowledgements

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Foreword

Since J. Bourgeois-Pichat published his impressive work anonymously under the aegis of the United Nations in 1956, literally hundreds of articles, books, and pamphlets have appeared on the theme of ageing. Though this work is yet another, it has come to light because those interested and curious to learn and know about ageing continue to press for answers. It is helpful, therefore to present in simple terms, a fundamentally important process which all too easily can remain hidden behind the more immediate concerns of daily life.

This work does not reveal new discoveries arising from the recent research of scholars, statisticians, gerontologists, biologists, demographers, sociologists, or economists. Rather, it a presentation, in the Canadian context of what is known in terms of ageing; its rate of progress, its implications, and the deadlines it imposes.

The study was first prepared by the author on the initiative of Comité International de Coopération dans les Recherches nationales en Démographie (CICRED). A part of the research was financed by Social Sciences and Humanities Research Council of Canada (SSHRCC), and a version of the work was published in Malta by International Institute of Aging (INIA). The study that Statistics Canada now places before the reader has kept the structure of the original; however, the analysis has been reshaped, brought up to date, and adapted.

The ageing of the population is a slow and unobtrusive process, the consequences of which can be formidable for those taken unaware and for those who only recognize the seriousness of events after they have come to pass.

Editor-in-Chief, Current Demographic Analysis

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Highlights

By 2036 persons aged 75 years and over will unquestionably constitute more than half of the group aged 65 and over, whereas in 1950 they only accounted for 30% of it. The proportion considered as very old (85 +), over the same period will triple. This ageing of ageing will only exacerbate the socio-economic consequences of the phenomenon itself.

xxx

The continuation of present trends in mortality will increase the female to male ratio among the elderly population.

xxx

Women aged 65 can still expect to live an average of 19 years (an increase of 27% compared to the situation in 1951); men can expect to live another 15 years (only a 12% improvement). However there is an important difference between life expectancy and the disability-free life expectancy. For women aged 65 the disability-free life expectancy is 9 years and for men 8 years.

xxx

In 1951 half of the 126,000 deaths in Canada occurred among persons over 66 years of age, but the mean age of those who died was below 57. Forty years later, the 200,000 deaths that occurred in that year involved persons who were on average 13 years older, and the median age at death had risen by more than 7 years.

xxx

At the time of the 1991 Census, among the elderly, more than three males in four had a spouse, but for females it was less than one in two. One elderly male in ten was a widower; one elderly female in two was a widow.

xxx

Overall, 22% of Canada's private households in 1991 contained at least one elderly member. Of these, 43% were non-family households, almost all of which consisted of one elderly person living alone.

xxx

As a whole, 63% the elderly living in private households in 1991 owned their homes, but the proportion decreased with age (from 71% for those aged 65-69 to 42% for those over 85).

xxx

Nowadays, for the average female, financially speaking, it is less advantageous to be in her fifties than to be a member of the elderly.

xxx

Recent socio-economic changes have caused the female labour force participation rate to evolve in the opposite direction to the century-old male trend, which in industrial countries, shows a decline after age 50.

xxx

The elderly are frequently hospitalized. For example, in the course of the twelve-month period preceding the General Social Survey of 1986, 18% of the elderly had spent some time in hospital. This percentage underestimated reality, since residents of institutions, who are usually very old and more frequently hospitalized, were not interviewed.

xxx

CHAPTER I

DEFINITION AND THEORY OF AGEING

In recent years, few phenomena have captured the interest of Canadians more frequently than the ageing of the population. Scientists, politicians, journalists, and policy-makers have expressed concerns and proposed solutions to this problem – no one seems indifferent to it. The term "ageing", however, takes on different realities when viewed from the perspective of a demographer, a gerontologist or a biologist, and depends on whether the individual or society is spotlighted. It is, therefore, important at the outset to define ageing in a demographic context and to present the most commonly accepted concepts related to it.

Definition of Ageing and the Choice of a Threshold for Old Age

A demographer concludes that a population is ageing when there is an increase in the proportion of persons at the upper end of the age structure. It is not, therefore, a simple question of numerical increase in elderly persons; such an increase would not signify ageing if the younger segments of the population increased concurrently in the same proportions. Thus, in the period under consideration here, the increase in the number of elderly persons must result from a more rapid rate of increase than that for other age groups.

There are two aspects to the study of population ageing. The first is the study of the process and its causes, with a focus on more or less rapid evolutions, their timing, and their consequences for society. The second is the analysis of the characteristics of an old population itself. Usually, this analysis focuses on the changes these characteristics undergo over time, and the overall needs they engender in the form of facilities, services and their financing, and so on. These two approaches, while quite interdependent, are generally undertaken in succession. Together, they form this comprehensive study on the ageing of the Canadian population.

Whether the question of ageing is approached from the point of view of the process or the population concerned, it is essential to establish a threshold for old age. For convenience, the threshold has been set at 60 or 65 years of age, an age empirically justified in our society. This choice has its roots in a diversity of legalities and conventions centring on retirement. The choice of such a chronological age is open to criticism, since it only approximates the threshold of old age as far as the practical, physiological and psychological aspects are concerned. For an individual, ageing is, in effect, a continuous birth-to-death biological process involving changes in the body. The experience of the ageing

process varies considerably from one individual to another, depending on individual differences in health and, therefore, dependency. Moreover, retirement has never been entirely associated with an incapacity to work, and it will be even less so in the future. Some see early retirement as social progress; conversely, others see its postponement as social progress. Finally, the choice of a threshold for old age carries with it a perception of what constitutes old age, and may vary considerably depending on the period (will the elderly of tomorrow resemble those of today?) and place (an old person is not perceived in the same way in developing countries as among the industrialized countries). As the criteria for the definition of "old age" evolve, so will the choice of the threshold.

These facts reflect the arbitrary nature of an age threshold, and the tendency to oversimplify a complex reality in choosing one. Attempts have been made to define old age in terms of degree of infirmity and dependency using the number of years of remaining life[1] as the statistical basis or, again, to establish the numerous mechanisms of ageing in order to capture the heterogeneity of a diversity of social settings.[2] Often however, there is a large gap between a theoretical model and its practical application. The statistical calculations require a specific age threshold in order to define the limits of this study and the categories of persons under consideration. As is customary in North America, 65 years of age has been chosen as the threshold of old age for this study. When necessary, however, discussion will also focus on the age groups flanking this limit. In addition, certain subgroups falling within the old-age segment itself, such as that of the very old, will be chosen for specific analysis, since individuals gradually change their characteristics as they age.

Ageing – A Universal and Inescapable Phenomenon

The sudden interest that has developed concerning the elderly has certainly not been independent of the realization that the world population is on the road to ageing. Recognition of this phenomenon appears clearly in the estimates and projections for the world and national populations produced by the Population Division of the United Nations. Revised regularly, these projections and their underlying hypotheses take into account the most recent trends. The number of elderly, however, even in the fairly distant future, will be determined almost exclusively by mortality rates, since those who will be the elderly are already born.[3] These numbers are evaluated in a more rigorous manner than their proportion in the total population, as they are independent of fertility considerations.

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[1] Norman Ryder, "Notes on Stationary Populations". *Population Index*, Vol. 41, No. 1, January 1975, pp. 3-28.
[2] Bertrand Desjardins and Jacques Légaré, "Le seuil de la vieillesse: quelques réflexions de démographes". *Sociologie et sociétés*, Vol. XVI, No. 2, October 1984, pp. 37-48.
[3] Between regions, migration may affect the numbers.

Figure 1
**Population Aged 65 and Over, for the World and More- or
Less-developed Regions, 1950-2025**

Millions
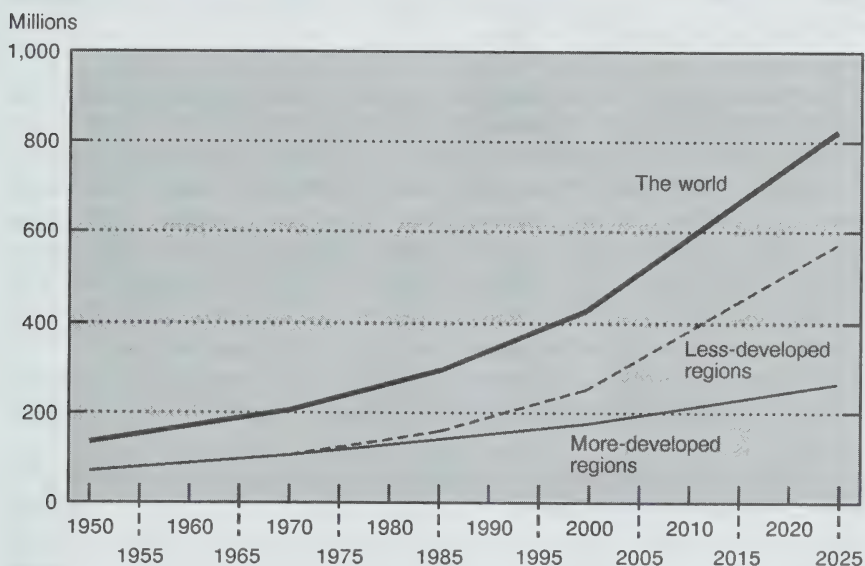
Source: Table A1.

The world projections from the U.N. show not only the emergence of a considerably greater increase in the number of elderly persons than has been experienced in the last 40 years, but also an acceleration in the rate of this increase at the turn of the century. From a total of 128 million in 1950, persons 65 years and over are expected to exceed the 800 million mark by 2025 (Figure 1). In this evolution, two phases are discernable: first, a slow and regular increase up to the current period, then a second, more rapid, increase. Nonetheless, in the overall world picture, two patterns of ageing can be identified in terms of degree of development. In looking at the proportions for the year 2025, one can point to the more developed regions characterized already by marked ageing (where almost one person in five will be 65 years or over by 2025) versus those made up of less developed countries, where only 1 person in 12 will be elderly by that year.

Not surprisingly, the overall evolution of world population trends chiefly reflects the less-developed regions, because the greater part of humanity lives in these regions. The developing countries will undergo a very rapid rate of growth in their total populations (a situation that has disappeared in the developed countries). Hence, since the outset of the 1970s, the number of elderly persons

began to increase much more rapidly. Between the years 1950 and 2025, the number of elderly will have multiplied four times in the developed regions of the world, but nine times among the countries of the Third World. Consequently, about 70% of the elderly will be living in the less-developed regions of the world by the end of 2025.

The universality of the demographic transition can be shown by considering population components separately by continent (Table A1). This is not surprising. In fact, simple arithmetic shows that it is not possible for a population to consistently maintain very different fertility and mortality rates without either growing or shrinking to extreme levels. For this reason, humanity must always have known a demographic regime in which, on average, birth rates slightly exceeded deaths rates, since the historical rate of total growth has been very low. We note that in the past, the human population was characterized by high levels of both mortality and fertility, engendering a pyramid-shaped structure – broad at the base and narrow at the summit. Only a small proportion of newborns reached old age; consequently, such populations were perpetually "young".

Following advances made in the areas of transportation and hygiene, and those in medicine and sanitation during the nineteenth and twentieth centuries, the population equilibrium was destroyed, causing a worldwide reduction in mortality and consequent rapid population growth. This imbalance between birth rates and death rates did not endure however, and a new regime characterized by low fertility and low mortality is in the process of establishing itself.

The age structure of a population living under such a regime no longer has the profile of a pyramid. Rather, its structure resembles a rectangle, in which the older age groups are almost as dominant as the young; such a population is "old". The passage from one demographic regime to the next, following the sequence: "decrease in mortality – increase in the population, decrease in fertility – ageing" has become known as "the demographic transition". Jean-Claude Chesnais[4] has provided a succinct summary of the age structure transformations:

> During the transition, every age pyramid has to pass through several successive stages. Despite the great number of figures that can be envisaged, depending on the initial state of a given population and the conditions influencing its transition, the composition of the age structure generally goes through four major phases.
>
> Phase 1: Rejuvenation (not only tied to a heavy drop in children's death rate, but also sometimes a temporary rise in fertility), of greater or lesser range and duration, depending on the prevailing level of infant and child mortality, and on the speed of the shift in timing to the period of decline in fertility.

Phase 2: Ageing, chiefly from the bottom. This manifests itself when the retreat of fertility becomes, in its turn, detectable and enduring.

Phase 3: Ageing, chiefly from the centre, then at the peak; once fertility stabilizes around its new post-transitional equilibrium, the more numerous cohorts of the transitional regime progressively ascend the age scale.

Phase 4: Stabilization of the degree of ageing eventually, preceded by a certain decline in population size with the extinction of the last of the numerically more abundant cohorts of the transition.[4]

The variations between the regions shown in Table A1 arise, therefore, from differences in the phase and tempo of the transition they are undergoing. These variations relate to the inevitable and irreversible aspects of the demographic transition.

The fourth phase is only currently evident in countries that began their transition early. One can say therefore, that the known cases of ageing populations in the world up to this point have essentially resulted from declining fertility. Advances in the field of health care first ensured the survival of a greater number of children, and then of adults. The recent progress achieved in the fields of health and the prolongation of life have initiated a wave of ageing at the age summit – referred to by some researchers as an "epidemiologic transition". There is indeed a good chance that contagious disease will be supplemented in importance by illness associated with ageing and degeneration. This implies that progress in the area of mortality will henceforth be concentrated at the upper end of the age spectrum, and life expectancy will inch towards the current established biological limits.

In the outline of the demographic transition presented above, Phase 3 highlighted the concept of "momentum". This is extremely important. The transformation of the age structure occurs slowly, given the pace at which the phenomena appear. Nonetheless, once started, the transformation is inexorable. A good demonstration of the mechanism is provided by the group of large cohorts which constituted the baby boom (1945 to 1965), and which were followed by the much smaller cohorts born after 1965. One can see the annual movement of these cohorts towards the peak of the age pyramid in the same manner that the bulge of the pray can be observed progressing along the body of the snake which swallowed it. As these large cohorts have aged, the preoccupations of society have sequentially focused on education and employment and, when the bulge reaches the appropriate milestone, retirement from the workforce.

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[4] Jean-Claude Chesnais, *La transition démographique*. Paris, PUF, Works and documents of INED No. 113, 1986, pp. 275-276. (Translation by author of this document, B. Desjardins).

Another concept fundamental to the study of ageing is closely connected to the process of metabolism. The elderly group changes in size and composition both with the number and timing of those entering through reaching the age threshold (65 years old), and of those leaving through death. The composition of this group is therefore influenced by the size and characteristics of the cohorts entering, by the changes that affect them with time, and by differential mortality between males and females. These processes cause major changes not only in the configuration and distribution by age and sex of the elderly group, but also such characteristics as income, education, and marital status. Currently, these fluctuations are rapid. Thus it has been estimated that less than half of the global population that was aged 65 and over in 1970 was still part of the elderly group in 1980: the remaining portion is made up of newcomers.

Conclusion

Societies must manifestly adapt to ageing populations, taking into account the impact of accidental variations in their age structures (which produce their own effects) as well as the factors related to changes within the elderly group. Without adopting the apocalyptic vocabulary of alarmists and zealots, there is no question that there will be a need for many changes in the economy, social services, and health care. In the future, the elderly will command the same attention that has been focused on children, adolescents, and adults in the past. The equipment, both personal and collective, destined for use in leisure activities, housing, transportation, and so on, will have to be redesigned. Public institutions will be solicited for economic support by the retired elderly, as well as by parents and those out of work. The world of health care must adjust to shifts in the incidence and prevalence of diseases: diseases due to physical deterioration will displace infectious diseases in importance, geriatricians will be more in demand than pediatricians, health institutions for long-term care will be as important as emergency units, and support networks will have to grow.

The financial implications of these changes are considerable, and accentuate the problem of intergenerational obligations. After being hampered in entering the job market by their numerous elders, will tomorrow's workers be able to honour the generous social and political contracts consented to by their parents at a time of rapid population growth – a growth, furthermore, which they themselves interrupted through a much lower fertility schedule? The information and related explanations presented in the following chapters are key factors in any meaningful attempt to understand some of the core issues facing Canadian society in the future.

CHAPTER II

PAST AND FUTURE TRENDS IN AGEING

While respecting the demographic transition model, each population has a unique history that influences the amplitude and timing of its ageing. The past and future trends in the chief parameters associated with the ageing phenomenon are examined in this chapter. These parameters are essentially: the size of the elderly group; its rate of growth; and, the nature and rate of the transformation of the population structure by age and sex, both within this target group, and in the Canadian population as a whole.

The Census of Canada provides reliable and accurate population data for the past and present,[5] while exploring the future requires using projections. However, projections do have limitations. Specifically, a projection is not a prediction, but rather illustrates what situations may arise if the hypotheses upon which they are based actually come to pass.

The demographic development of the country depends on the interaction of numerous political and socio-economic factors in Canada as well as in the rest of the world. Therefore, in developing hypotheses for projections, these factors must be carefully taken into account. To address concerns about possible fluctuations in the value of the components, however, several scenarios are often proposed in order to position the projections being offered between the most likely extremes. For reasons of clarity in the conclusions, one scenario will be presented here. This scenario has been developed specifically for this analysis by the Demography Division of Statistics Canada using current methodology and accounting for the most recent trends. However, the higher and lower limits that may be reached at the national level, as calculated at the time of the most recent official projections,[6] are sometimes presented.

Projection of the Canadian Population Used in This Study

Based on the 1991 Census population, the projection covers a period of 45 years, ending in 2036. Since it is not possible to foresee the complex situations in all different domains that may arise in the long term, the hypotheses only

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[5] Censuses of population are never completely accurate. In general they err in the direction of under-enumeration; moreover, this under-counting varies with age and the subpopulations that constitute the population as a whole. Nevertheless, there is no reason to suspect that these weaknesses have ever been a serious problem at any time in the history of Canadian census-taking.

[6] J. Perreault, in collaboration with M. Declos, R. Costa, D. Larrivée and S. Loh, *Population Projections for Canada, Provinces and Territories, 1989-2011*. Statistics Canada, Catalogue No. 91-520, March 1990. 192 p.

cover the evolution of three key components: mortality, fertility, and international migration, up to 2011 (after which the levels thus attained are held constant for the last 25 years of the projection). The population numbers calculated for the long term might therefore be considered only as indicators.

This projection uses the same mortality assumption as the previous official projection. It conforms with that adopted by the other industrialized countries, and supposes that the recent gains in life expectancy will continue, but at a decreasing rate – the average gain is projected to be 0.8 years per five-year period. This would raise the life expectancy at birth to 77.2 years for men and 84.0 years for women by 2011, compared with 73.0 for men and 79.8 for women in 1986.

In general terms, the fertility assumption maintains the existing total fertility rate of 1.8 – the average number of children born per woman, assuming that the age-specific fertility rates of a given year remain constant through her reproduction life. This level of fertility does not ensure the replacement of the cohorts and, in the absence of sufficient international migration to offset the shortfall, will result in population decline.

The annual number of immigrants allowed into Canada depends on governmental decisions. After consulting a wide range of social organizations, the annual number is established as a target by Employment and Immigration Canada. Until 1985, the new level of 250,000 per year has been approved. As this represented a substantial increase over the previous years, it was assumed in the projection model that the number of immigrants will gradually decrease to 200,000 per year by 2011, and will stay at this level in the following years. In addition, the projection assumes that the rate of emigration will remain a constant proportion of the population, and that this will be higher than that observed during the last 10 years because of the increase in the number of immigrants. For this projection, the rate of emigration has been set at 25 per 1,000.

Given that uncertainty about population dynamics grows with time, the farther away the time horizon, the more remote the chances are that any particular situation projected will coincide with reality. Within the time limits chosen, the total number of elderly depends almost only on hypotheses concerning mortality. These numbers are easier to calculate than their share in the total population, whose size depends on the evolution of fertility. To illustrate how cautious one must be about projections, note that the 1991 Census population was noticeably different from that which would have resulted from the medium scenario projected in 1974.[7] The total population enumerated by the census was 2.2% lower than projected, while that of the elderly population was 8% higher. These discrepancies resulted from an underestimation of the future decline in both fertility and mortality.

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[7] *Population Projections for Canada, Provinces and Territories, 1972-2001*. Statistics Canada, Catalogue No. 91-514, June 1974, 181 p. Projection B.

The Magnitude of Ageing

Table 1 illustrates how trends in ageing can evolve: between 1951 and 1991, the number of elderly almost tripled and, by 2036, the elderly could account for 2.7 times their current share of the population. This would translate into more than 8.5 million elderly Canadians by the year 2036. In comparison, their number barely surpassed 1 million in 1951. This growth is not perfectly linear however, since it depends on past fluctuations in both the number of births and migration. Thus, during the period from 1991 to 2011, the number of elderly will only grow by 1.7 million because the smaller cohorts born between the Great Depression and the Second World War will reach the threshold age (65). Between 2011 and 2031 however, the 3.4 million baby boomers will swell the ranks of the aged.

Compared to the overall increase in the size of the population, this growth in the number of elderly translates into significant ageing. In effect, the total size of the population has almost doubled between 1951 and 1991, but is projected to increase by only one-third in the roughly forty years between now and 2036. In other words, for the entire period, the total population will have increased by a factor of 2.6, whereas the 65-and-over population will have exploded to 7.9 times its original size. Although slow, up to the present, ageing will accelerate during the next century as those in the post-war cohorts turn 65. The elderly will represent more than 23% of the population, and the median age will surpass 42 years – almost 10 years higher than in 1991.

Figure 2 shows this movement in a long-term perspective. As explained in Chapter I, the Canadian population has aged slowly but irregularly over the last century, following the break with the old demographic regime. Thus, the proportion of elderly people in Canada has almost tripled during the interval between 1881 and 1991, rising from 4.1% to 11.6%. The projection allows for an acceleration in this process because of the very rapid drop in fertility observed since the 1960s. The 65-and-over group will double again, but in only 50 years this time. Even though "historical accidents" have produced irregularities in the curve, the unavoidable long-term character of the trend is nevertheless plainly visible.

And what of the future? The usefulness of projections becomes questionable when the ultimate limits of ageing are considered. If, in effect, the projection scenario used here is reasonable for the next few years, it becomes almost senseless in the longer term, since it implies a level of fertility below that needed to replace existing cohorts, and hence inevitably leads to population extinction. For this reason, when considering long-term horizons, it is preferable to use stable population models. Such models characterize the age structure of a population exposed over a very long period to constant mortality and fertility.[8]

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[8] Ansley J. Coale, Paul Demeny and Barbara Vaughan, *Regional Model Life Tables and Stable Populations*, (Second Edition). New York/London, Academic Press, 1983.

**Table 1. Number of Elderly Persons by Age Group and proportion
of Each in the Total Population, Canada,
1951-1991 (Observed) and 2001-2036 (projected)**

Age Group		Observed				
		1951	1961	1971	1981	1991
Total Population	Number	14,009.4	18,238.2	21,568.3	24,343.2	27,296.9
	%	100.0	100.0	100.0	100.0	100.0
65-69 years	Number	433.5	487.1	620.0	844.3	1,073.2
	%	3.1	2.7	2.9	3.5	3.9
70-74 years	Number	315.1	402.2	457.4	633.4	821.3
	%	2.2	2.2	2.1	2.6	3.0
75-79 years	Number	188.4	274.2	325.5	432.7	614.8
	%	1.3	1.5	1.5	1.8	2.3
80-84 years	Number	96.8	146.8	204.2	256.8	376.8
	%	0.7	0.8	0.9	1.1	1.4
85 years and over	Number	52.5	80.8	137.4	193.8	283.4
	%	0.4	0.4	0.6	0.8	1.0
65 years and over	Number	1,086.3	1,391.1	1,744.5	2,361.0	3,170.0
	%	7.8	7.6	8.1	9.7	11.6
		Projected				
		2001	2011	2021	2031	2036
Total Population	Number	30,768.2	33,407.2	35,412.2	36,648.4	36,922.9
	%	100.0	100.0	100.0	100.0	100.0
65-69 years	Number	1,129.6	1,491.4	2,100.3	2,329.3	2,051.0
	%	3.7	4.5	5.9	6.4	5.6
70-74 years	Number	1,006.8	1,109.3	1,722.9	2,136.1	2,120.2
	%	3.3	3.3	4.9	5.8	5.7
75-79 years	Number	822.7	884.1	1,173.9	1,648.8	1,837.8
	%	2.7	2.6	3.3	4.5	5.0
80-84 years	Number	537.7	675.1	752.4	1,162.6	1,294.5
	%	1.7	2.0	2.1	3.2	3.5
85 years and over	Number	473.7	701.1	828.0	1,031.0	1,261.8
	%	1.5	2.1	2.3	2.8	3.4
65 years and over	Number	3,970.5	4,861.0	6,577.4	8,307.8	8,565.3
	%	12.9	14.6	18.6	22.7	23.2

Sources: Statistics Canada, 1991 Census of Canada, *Age, Sex and Marital Status*, Catalogue
No. 93-310, for previous censuses equivalent publications.
Figures are from the projection produced by Statistics Canada's Demography Division
based on the hypothesis described in the text.

Figure 2
Proportion of People Aged 65 and Over in the Total Population, Canada, 1881-2036

Percent
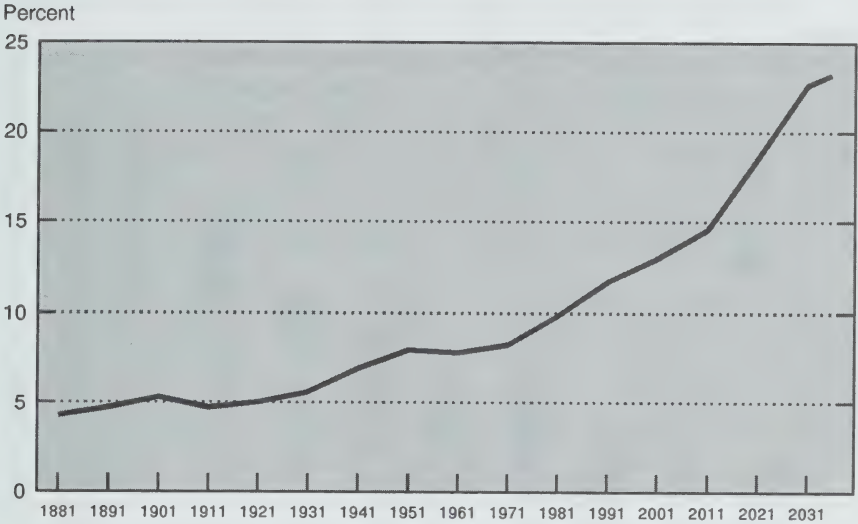
Source: Table A3.

Considering a population model with a fertility rate that ensures cohort replace-ment, and a level of mortality a little less favourable for women than that chosen for the Statistics Canada projection, leads to an elderly population that comprises roughly 21% of the total population in 2011. Thus, in a stabilized condition, the Canadian population would in the very long term have an over-65 member-ship varying between approximately 20% and 25%.

The numbers for each of the sub-groups that comprise the elderly group also change their importance with time (Figure 3). In 2036, the population aged 75 and over could be more than 4 million (3.4 times its size in 1991 and 13 times its 1951 size). Also by 2036, the number of persons aged 65 to 74 will have increased 2.2 times since 1991, and 5.6 times since 1951. While those 75 and over will make up 12% of the total population, the very old (those 85 and over) will have multiplied by a factor of 24 since 1951.

Figure 3
Numerical Changes in Population Aged 65 and Over, Quinquennial Age Groups, Canada, 1951-2036

Millions

Legend:
- 65-69
- 70-74
- 75-79
- 80-84
- 85 +

X-axis: 1951 1961 1971 1981 1991 2001 2011 2021 2031 2036
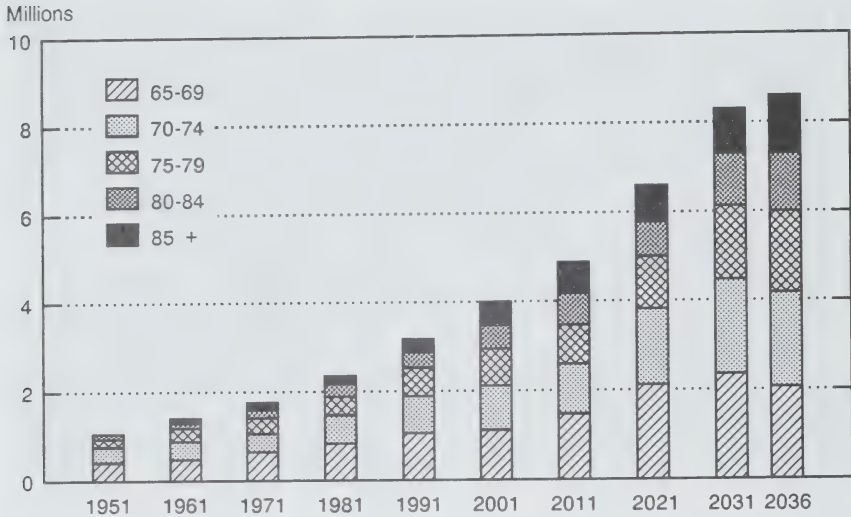
Source: Table A2.

To summarize, it appears that Canada's population is approaching the mid-point of a major ageing trend, resulting from changes in mortality which now make it possible for most people to reach advanced age. At the end of this evolution, when a new balance is eventually reached, almost 1 Canadian in 4 will be 65 years or over, and more than 1 in 10 will be at least 75. The speed and uniformity of the transition from today to the distant future will depend on the pattern of reproductive behaviour as time goes by. It is already known that the first third of the twenty-first century will be marked by major fluctuations due to the irregularities already present in today's age structure among the youngest ages.

The Composition of an Old Population

A description of ageing should not be limited to the presentation of numbers and proportions of elderly in the population. It is particularly important to consider the characteristics of this population by gender and age group.

Thus, one of the often evoked consequences of an ageing population is the fear that the growth in the number of persons who are a burden on society will one day exceed the support capacity of those still working. Currently, one of the first assertions that can be made is that the demographic dependency ratio (the ratio of the sum of the population aged 0 to 19 and the 65 and over population to the population aged 20 to 64) varies independently of the median age of the population during the period from 1951 to 2036 (Table 2).

The median age fluctuated in the upper twenties until 1981, but will increase rapidly and surpass age 40 by 2036. In contrast, the dependency ratio, which has declined since 1961, will bottom-out at the turn of the century; in 2036, its level will rise again to approach its 1951 level. Since the ratio of elderly to working age persons, which was virtually invariate between 1951 and 1981, varies afterward in the manner expected, it is therefore the evolution in the number of youth that will generate the surprising transformations in the dependency ratio.

Figure 4 shows the changes in the proportions of young and elderly dependents since the beginning of the Canadian demographic transition. Up to the present, on comparing the figures for the young with those of the elderly, it is clear that the dependency ratio has always varied chiefly in relation to births, despite the regular increase in the ratio of the elderly to the adult population. This century-old state has now been altered such that from the turn of the next century, the dependency ratio will increase as a result of growth in the number of elderly. This growth will not be balanced by a reduction in the number of young people.

Even in the elderly population itself, the ratio between age groups testifies to differential evolution in the size of cohorts (Table 2). In spite of a few fluctuations, it is clear that the older age groups are beginning to outnumber their younger counterparts. Persons 75 and over will constitute about half of the elderly population in 2036, whereas 40 years ago they did not quite account for one-third. In the same period, those aged 85 years and over will see their relative importance almost triple. From being one-tenth the size of those aged 65 to 69 in 1951, their number will increase to become almost 63 percent the size of their neighbouring age cohort in 2036. Not only is the number of elderly increasing, but they are becoming older and older. This "ageing of the ageing" can only exacerbate the socio-economic consequences of the phenomenon.

The synopsis of Canada's age pyramids at selected historical intervals shows the structural changes which have just been described (Figure 5). The age pyramid in 1881 is typical of the pre-transitional situation: large at the base and

Table 2. Evolution of the Median Age and Selected Structural
Elements of the Observed (1951-1991) and
Projected (2001-2036) Population

	Observed				
	1951	1961	1971	1981	1991
Median Age	27.7	26.3	26.3	29.7	32.5
Dependency Ratio:					
Total (0-19 years + 65 years and over)/(20-64 years)	0.84	0.98	0.90	0.72	0.65
Elderly persons (65 years and over)/(20-64 years)	0.14	0.15	0.15	0.17	0.19
Ratios pertaining only to the elderly:					
The least elderly (65-74 years and over)/(65 years and over)	0.69	0.64	0.62	0.63	0.60
The elderly (75 years and over)/(65 years and over)	0.31	0.36	0.38	0.37	0.40
The most elderly (85 years and over)/(65 years and over)	0.05	0.06	0.08	0.08	0.09
Index of replacement (85 years and over)/(65-69 years)	0.12	0.17	0.22	0.23	0.26
	Projected				
	2001	2011	2021	2031	2036
Median Age	36.2	38.8	40.4	41.6	42.2
Dependency Ratio:					
Total (0-19 years + 65 years and over)/(20-64 years)	0.64	0.63	0.70	0.81	0.82
Elderly persons (65 years and over)/(20-64 years)	0.21	0.24	0.32	0.41	0.42
Ratios pertaining only to the elderly:					
The least elderly (65-74 years and over)/(65 years and over)	0.54	0.54	0.58	0.54	0.49
The elderly (75 years and over)/(65 years and over)	0.46	0.46	0.42	0.46	0.51
The most elderly (85 years and over)/(65 years and over)	0.12	0.14	0.13	0.12	0.15
Index of replacement (85 years and over)/(65-69 years)	0.42	0.47	0.39	0.44	0.62

Sources: Calculations made using data from selected Canadian population censuses, and the
projection of the Canadian population chosen for this study.

Figure 4
Changes in Dependency Ratios, Canada, 1881-2036

Ratio
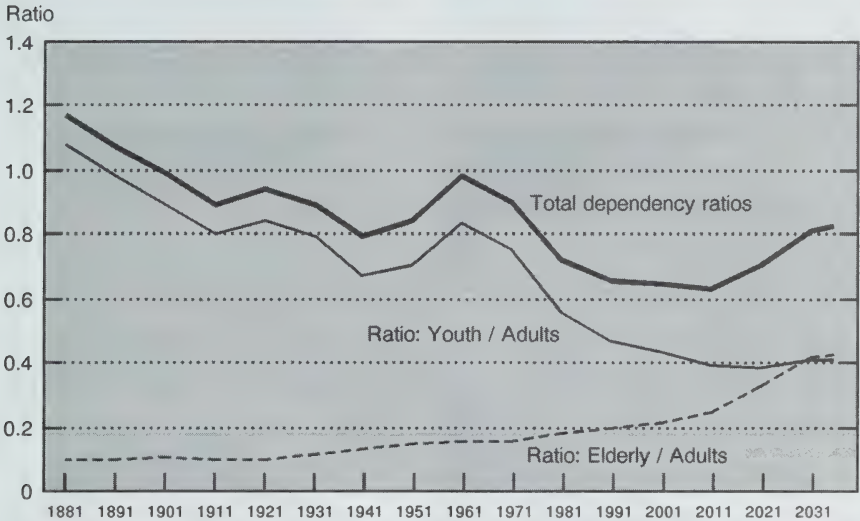
Source: Table A3.

narrow at the summit, the size of the population contracts uniformly from one age group to the next. The general appearance is indeed that of a pyramid.

As early as 1921, the effect of the new demographic regime was becoming evident: the youth occupied a smaller part of the pyramid (the scale of which is always the same) while the adult population expanded. In 1951, the pyramid was squatter, despite the appearance of the first of the baby boom cohorts. The final three pyramids show the establishment of a new regime: the configuration of the age structure has begun to resemble a bell in 2011, then more or less a rectangle as the age groups tend towards equal importance late in life. In 2036, only the very old are destined to be heavily reduced by death. The regular decrease in the size of the age groups from 40 to 44 years down to 0 to 4 years stems from a projected fertility level below the replacement threshold. This situation could not last for long.

Figure 5

Age Pyramids, Canada, 1881-2036
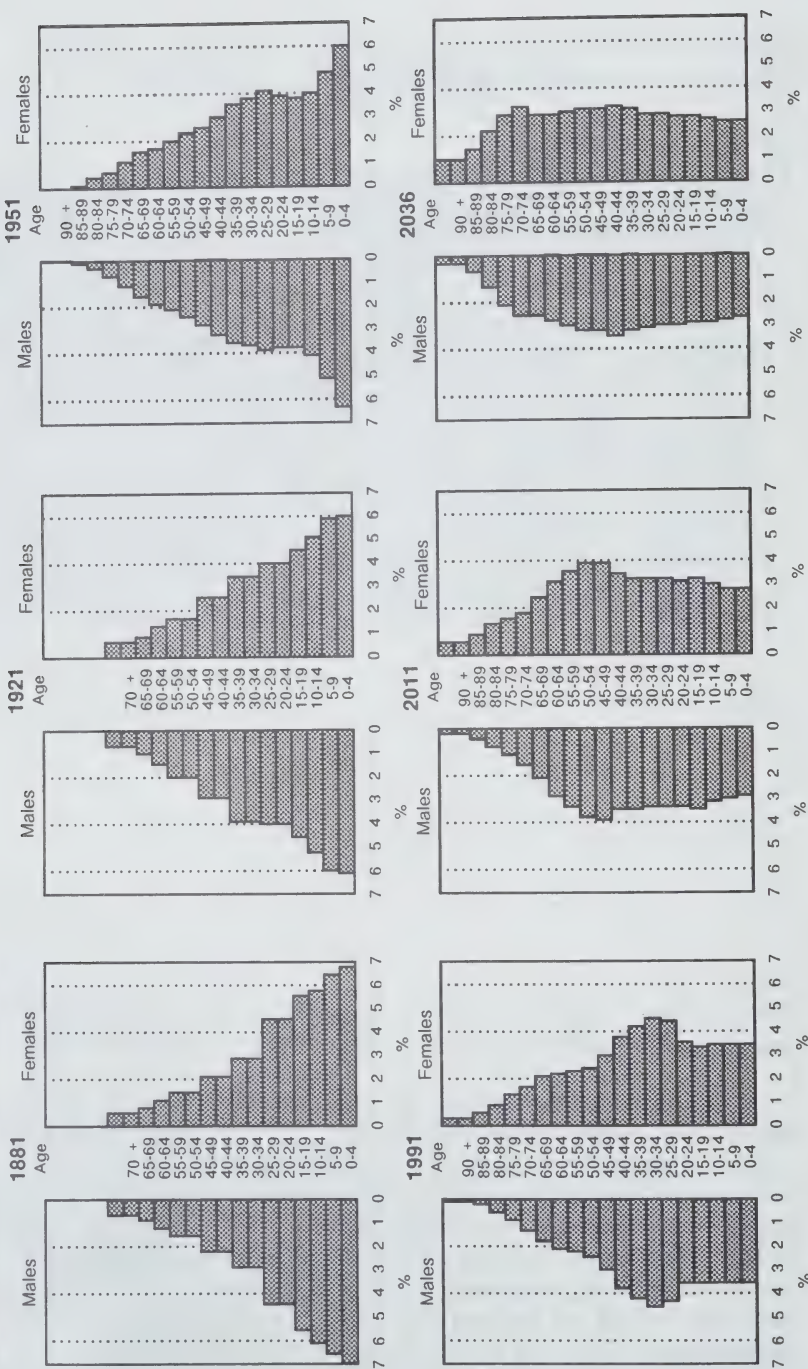
The interest that age pyramids hold lies in their ability to show detailed characteristics of the population structure resulting from the short-term fluctuations of components. Thus, it can be seen that Canada gave birth to a succession of small cohorts during the Great Depression and the Second World War, and larger cohorts (the baby boom) which already appear on the 1951 pyramid. Moreover, the baby boom years amount to an exceptional 20-year episode of strong fertility within a secular declining trend. The passage of these cohorts is plainly visible on the age scale, and their sojourn is undeniably temporary.

The impossibility of erasing an "accident" from the age structure ensures that this accident will inevitably reach the elderly segment and continue therein. One can establish this by looking at Figure 6, which shows the average annual growth of the elderly by sex for five-year periods from 1951 to 2036. This growth has resulted, and will result, from the difference between the number of persons who reach age 65 and the number of deaths occurring among the elderly. From 1951 to the present, the tempo of the increase was regular. It added 95,000 persons per year to the group by 1991, compared with 31,000 in 1951. The arrival

Figure 6
Average Annual Growth Rate for Population Aged 65 and Over, by Sex and Quinquennial Periods, Canada, 1951-2036

Average Annual Growth (in thousands)

Quinquennial periods
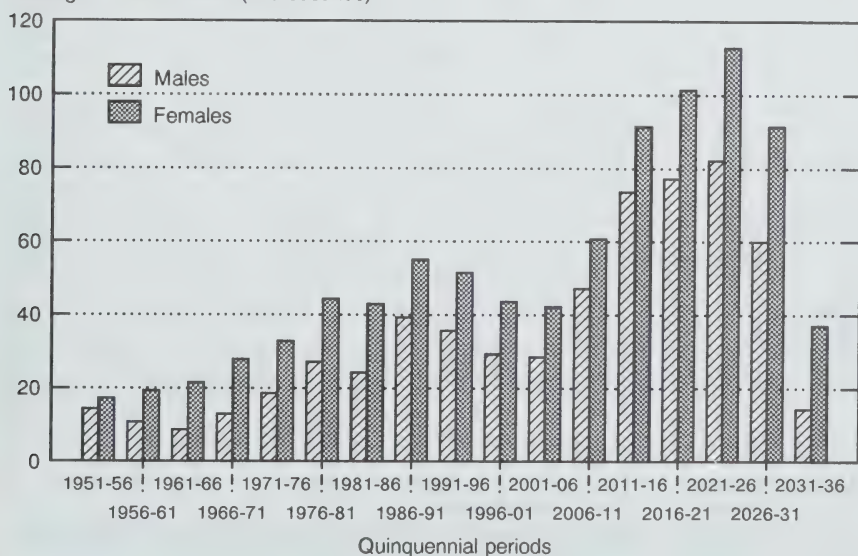
Source: Table A5.

Table 3. Sex Ratio by Broad Age Group, and by Five-year Age Group
for the Elderly, Canada, (Observed) 1951-1991 and
(Projected) 2001-2036[1]

Age Group	Observed				
	1951	1961	1971	1981	1991
Total	102.4	102.2	100.2	98.3	97.2
0-19 years	103.5	104.4	104.3	105.0	105.1
20-64 years	101.6	101.7	100.4	99.2	99.2
65 years and over	103.1	94.0	81.2	74.9	72.3
65-69 years	111.1	96.9	91.4	86.1	84.8
70-74 years	103.7	95.1	81.7	79.8	77.6
75-79 years	99.8	95.8	75.5	71.6	69.7
80-84 years	90.6	88.7	72.3	58.6	59.2
85 years and over	76.2	76.8	65.9	48.8	43.8
	Projected				
	2001	2011	2021	2031	2036
Total	96.9	96.7	96.3	95.6	92.3
0-19 years	105.3	105.6	105.6	105.6	105.6
20-64 years	99.6	100.1	101.3	102.7	103.2
65 years and over	71.5	71.9	73.4	72.6	71.3
65-69 years	90.0	89.4	87.9	88.7	90.0
70-74 years	82.1	82.5	82.1	81.7	82.1
75-79 years	68.4	73.4	73.5	72.3	72.6
80-84 years	56.4	61.0	61.7	61.4	61.0
85 years and over	40.9	39.5	41.0	42.0	42.3

[1] The ratio is the number of males to the number of females. It is usually expressed per 100 females.

Sources: Calculations made by author using data from selected Canadian population censuses, and
the projection of the Canadian population chosen for this study.

of the shallow cohorts from now until the turn of the century will invert this trend, but it will resume with even greater vigour with the arrival of the baby boom cohorts. Between 2021 and 2026, fully 195,000 persons per year will be added to the group. Within the final five-year period from 2031 to 2036, the shallow cohorts born between 1966 and 1971 will reach their 65th birthday. These cohorts were small due to the steep decline in Canada's fertility rate in the so-called "baby-bust" period.

The elderly will therefore grow in waves, owing to the demographic legacy of the country. These cycles will succeed one another, but diminish in scope. Given the same reproductive behaviour, large cohorts give rise to large cohorts. In theory, it is possible for this phenomenon to continue endlessly: in practice, events usually intervene to end it.

While the age pyramids and Figure 6 illustrate the similarities in the way the male and female populations have evolved, they also display certain major differences between their relative numbers in later years. Since 1951, men have seen their relative numbers diminish from a majority to scarcely more than 41%, a proportion that should remain constant until 2036 (Table 3). The surplus of women from age 65 up in 1961 becomes increasingly evident in the age scale as time passes; among those aged 85 and over in 1981, women were twice as numerous as men, and they will be two-and-a-half times as numerous at the turn of the century.

This imbalance in the male/female populations has its origin in the lower rate of female mortality. From the middle of the nineteenth century onward, women have had a 2-year advantage in life expectancy at birth on a period measurement basis.[9] Since the Second World War, the gap has widened considerably. Since 1986, the difference has been approximately 6.8 years. A higher proportion of women reach the threshold of old age and live a longer time in this last segment. These differences in the period indices for mortality are not reflected accordingly in the survival of cohorts due to different histories of each. This explains why the sex ratio for certain age groups differs from the one expected. Moreover, the increase in the ratios at the 2036 time horizon arises from the projection's mortality hypothesis, which anticipates some reduction in surplus male mortality. The ageing differential between the sexes has significant social consequences, as men and women of advanced ages have very different characteristics, taking for example, the different roles attributed to each until recently in the society. This point will be further developed in the section dealing with the way the elderly live.

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[9] Robert Bourbeau and Jacques Légaré, *Évolution de la mortalité au Canada et au Québec, 1831-1931. Essai de mesure par génération.* Montreal, PUM, Collection, "Démographie canadienne", No. 6, 1982, 142 p.

The ageing tendency of the Canadian population is inescapable: major, but not indefinite, it depends on imbalance introduced into the age structure by short-term fluctuations in the behaviour of past populations. Reference has been made to the fundamental causes of ageing; it would seem appropriate to now examine the role that each of these factors has played in the ageing of Canada's population.

CHAPTER III

PRINCIPAL FACTORS OF AGEING

Most demographic phenomena are interrelated and, for this reason, some characteristics are transmitted from one demographic event or process to another. For instance, the ageing pattern in France has resulted from the early beginning of the demographic transition in that country and heavy losses sustained during the First World War. In the same manner, the ageing of Israel's population is very heavily driven by the substantial migration that this country had experienced since its inception. To understand the ageing of the Canadian population therefore, one must study the evolution of fertility, mortality, and migration. This chapter emphasizes behaviour exhibited by successive cohorts, since the portrait of a society results each year from the meeting of cohort-specific behaviours in the domains of fertility, mortality and migration.

How Births and Deaths Affect the Number of Elderly

The number of persons who arrive at the threshold of old age (65 years) during a period arises from the number of persons who were born 65 years previously, reduced by those who have died in the interim, and to which is added the net total of surviving migrants. The two major components can be seen in Table 4 where, between 1951 and 2031 at 10-year intervals, are listed the number of persons aged from 65 to 74, as well as the number of births for the cohorts concerned, and the ratio of the first figure to the second.

There was a slight increase in the number of persons born at the turn of the century and who formed the 65-74 year old cohort in 1961. This was followed by a rapid increase in the number of births during the first two decades of the new century, and a decline during the Great Depression. An increase in the number of births after the Second World War was followed by a steep decline, which has continued almost unabated since the 1960s. The number of persons aged 65 to 74 has evolved accordingly, disrupted only from time to time by the net balance of migration. One can observe that, whereas the number of births fell by 11% between the 10-year periods from 1916 to 1925 and 1926 to 1935, the number of persons aged 65 to 74 grew by 28% between 1981 and 1991. Considering that the changes in the probabilities of survival from birth to age 65 are minor, these cohorts must have registered high positive net migration during the 65-year period up to 1991.

The ratio of births to the number of persons in the 65-74 age group has grown regularly from less than 1 in 2 to more than 4 out of 5. The number of births has also risen, albeit irregularly. Some very intriguing situations are apparent.

Table 4. Contribution of Births and Deaths to the Evolution of the
65-74 Age Group, Canada, 1951-2031

Year	Population aged 65-74 years[1]			Number of births[2]		Proportion of survivors in the 65-74 year age group[3]	
	Cohorts aged 65-74 years	Number (in thousands)	Change (%)	Number (in thousands)	Change (%)	Proportion	Change (%)
1951	1886-1895	749	--	1,005	--	0.432	--
1961	1896-1905	889	18.7	1,235	22.9	0.487	12.7
1971	1906-1915	1,077	21.1	1,610	30.4	0.542	11.3
1981	1916-1925	1,477	37.1	2,470	53.4	0.590	8.9
1991	1926-1935	1,895	28.3	2,194	- 11.2	0.613	3.9
2001	1936-1945	2,136	12.7	2,417	10.2	0.669	9.1
2011	1946-1955	2,601	21.8	3,897	61.2	0.749	12.0
2021	1956-1965	3,823	47.0	4,630	18.8	0.797	6.4
2031	1966-1975	4,465	16.8	3,627	- 21.7	0.820	2.9

[1] The figures from 2001 onward are from the projection produced by Statistics Canada's Demography Division based on the hypothesis described in the text.

[2] Births prior to 1921 are approximated.

[3] Represents the proportion of survivors at age 70 from the table of cohorts corresponding to that of the central cohort for the decade, taken from: Robert Bourbeau and Jacques Légaré, *Évolution de la mortalité au Canada et au Québec, 1831-1931. Essai de mesure par génération*. Montréal, PUM, Collection, "Démographie canadienne" No. 6, 1982, p. 142. From the 1941 cohort onward, the progression has been estimated using period tables, taking into account the fact that in the projections, mortality is considered to be constant from 2011 onward.

Sources: Vital Statistics data and calculations made by the author. From age 70 onward: calculations by the author based on Robert Bourbeau and Jacques Légaré, *Évolution de la mortalité au Canada et au Québec, 1831-1931.*

For example, the number of persons aged 65 to 74 will likely be higher than that of births 65 years earlier, just as the size of the group in 1951 was more than 1.5 times that which would have resulted from the survivors of the cohorts born between 1886 and 1895. Finally, it can be seen that having steadily declined until 1981, the positive role of migration will increase again until the turn of the next century, and immediately decline thereafter. However, the role that migration will play in future population growth is linked to the hypothesis that was chosen when the projection was originally made.

The elderly group also possesses its own internal dynamic similar to the one upon which our attention had been focused. In this group one constantly observes those entering, (those who have reached the threshold) and those leaving (those who have died). The relation between the numbers of those who enter and those who leave the group is a measure of group renewal. Between the periods from 1956 to 1966 and 1966 to 1976, the number of persons entering the 65-and-over group increased by 28%, the same magnitude of increase as between the periods from 1966 to 1976 and 1976 to 1986 (Table 5). Conversely, the elderly group of 1966 to 1976 was 30% larger than its counterpart of 1956

Table 5. Dynamic Elements of Renewal of the Elderly Population, by Ten-Year Periods, Canada, 1956-1966, 1966-1976 and 1976-1986 (in thousands)

	1956-1966	1966-1976	1976-1986
Population aged 65 years and over at the end of the period	1,539.6	2,002.3	2,697.6
Population aged 65 years and over at the beginning of the period	1,243.9	1,539.6	2,002.3
Net gain	295.7	462.7	695.3
Number of persons reaching age 65 during the period[1]	1,130.5	1,452.4	1,856.5
Deaths among persons aged 65 years and over during the period	834.8	989.7	1161.2
Deaths among persons aged 65 years and over present at the beginning of the period	691.8	821.6	967.8
Deaths among persons who reached age 65 during the period	143.0	168.1	193.4
Mortality among the population aged 65 years and over (%)[2]	35.2	33.1	30.1
Mortality among the population aged 65 years and over present at the beginning of the period (%)	55.6	53.4	48.3
Mortality among persons who reached age 65 during the period (%)	12.7	11.6	10.4

[1] Including the migration of persons aged 65 and over.

[2] Deaths in percentage of persons aged 65 and over at the beginning of the period, or who reached age 65 during the period.

Sources: Population data from various censuses. For 1986, *Age, Sex and Marital Status*, Catalogue No. 93-101, equivalent publications for previous years. Data for deaths taken from Vital Statistics, *Births and Deaths* Catalogue No. 84-204 (Annual), Canadian Centre for Health Information.

to 1966, while the group of 1976 to 1986 grew by 35% compared with that of 1966 to 1976. This acceleration in the tempo of growth in the elderly group, which is not commensurate with the increase in births, can be explained by a reduction in the mortality of the elderly: 30% of the persons who were already members of the group in 1976, or who joined it in the following 10 years, were dead in 1986, whereas the corresponding figure for the preceding 10 years was 35%. Another consequence of population dynamics is the considerable turnover in the group. The total annual entrants in the course of 10 years (the fourth line of Table 5) represents more than 90% of this population at the beginning of the period (the second line of the table). As a result, at any given time, three elderly persons out of four were not members of the group 10 years earlier. From another perspective, 56% of the persons living in the group in 1956 were deceased by 1966; the corresponding figure for the 1976 to 1986 period was only slightly above 48%. Here again is evidence of changes in the mortality rate of persons of advanced ages.

Fertility

A decline in fertility causes a population to age. To the extent that a reduction in the number of births reduces the relative proportion of youth, it inversely increases that of the elderly. This declining trend in fertility is a long-standing phenomenon, in Canada as in other developed countries, but has accelerated since the mid-1960s. Married women born immediately after the Second World War have had, on average, one child each less than those women born fifteen years earlier. Compared with the level of fertility maintained by the first 30 cohorts of the century, there has been a 30% decline (Table 6). Moreover, the most recent cross-sectional indices suggest a continuation of the declining trend in fertility to levels well below the replacement of cohorts. This situation has resulted from new attitudes with respect to marriage and divorce which seem to have taken root in society, apparently engendering conditions that are less favourable to fertility than those of the past.

Table 6. Average Number of Children Per Married Female and Number of Children Surviving to Age 65, 1860-1951 Cohorts, Canada

Cohorts of mothers	Average number of live births[1]	Number of children surviving to age 65[2]
1860-1876	4.8	2.6
1876-1881	4.4	2.7
1881-1886	4.3	2.7
1886-1891	4.2	2.8
1891-1896	4.1	2.7
1896-1901	3.8	2.6
1901-1906	3.4	2.3
1906-1911	3.2	2.2
1911-1916	3.1	2.2
1916-1921	3.2	2.4
1921-1926	3.3	2.5
1926-1931	3.4	2.7
1931-1936	3.3	2.7
1936-1941	2.9	2.4
1941-1946	2.5	2.1
1946-1951	2.2	1.9

Sources: [1] Results from the Canada Fertility Survey, Statistics Canada, conducted in 1984 under the supervision of T.R. Balakrishnan, K.J. Krotki and E. Lapierre-Adamcyck. The 1941-1951 cohorts represent the anticipated final number of offspring.
[2] Calculations made using cohort life tables corresponding to the annual approximate average number of births; Robert Bourbeau and Jacques Légaré, op. cit. (Table 4). For the average number of children born after 1931, the proportion of survivors has been estmated using period life tables, assuming almost stable rates for the most recent cohorts.

These new social mores have had an impact on the annual number of births. Canada could count on about 475,000 births per year at the beginning of the 1960s, but 100,000 less 25 years later. This evolution has slowly but inexorably transformed the age pyramid. And, if the projected fertility is kept at the current level rather than returning to the replacement threshold, it will produce an effect of the same order. In 1996, five years after the beginning of the projection, the annual deficit of births resulting from the choice of the fertility levels is 16,000 below the 1991 number; 10 years later the annual deficit is projected to approach the 60,000 mark. The cumulative effect, which can be evaluated by the number of persons less than 15 years old, is 340,000 persons. Finally, in 2016, a deficit of more than 90,000 births per year is foreseen, and the proportion of elderly persons is expected to be almost 0.5% higher. Such a situation cannot perpetuate itself for long, because this behaviour inevitably engenders the decline of a population, and then its extinction. This, however, is a good illustration of the impact of recent levels of fertility on the age structure through a reduction in the number of births.

On the other hand, it has been ascertained that the decline in women's fertility has been accompanied by an impressive rise in the survival of their children to age 65 (Table 6). Whereas the women born at the end of the nineteenth century had, on average, one less child than their mothers, the number of these children who reached the threshold of old age remained the same. For the whole period, the decline in the average number of births (from 4.8 to 2.2) only led to a reduction of 2.6 to 1.9 in the number of children surviving to age 65. While it can be concluded that changes in fertility behaviour have played a certain role, the importance of the decline in mortality rates must not be ignored. These changes influence both the relative and absolute number of elderly, and they do so in two ways. On the one hand, survival to age 65 determines the proportion of each cohort reaching old age; on the other, the level of mortality after age 65 in any given period controls the survival of the elderly. The combined effects of these two changes in the mortality regime (before and after the old-age threshold) determine the size and age structure of the elderly population at any given moment.

Mortality

The most common measure of mortality is life expectancy. Among other parameters, a life table yields an age-specific measure of the average remaining years of life. Strictly speaking, life expectancy can only be calculated when all of the persons in the group are dead; for this reason it has little practical value. An approximation can be obtained from the "period life table". To establish the table and its different parameters (particularly life expectancy) one applies to some hypothetical cohort of newborns (numbering for example, 1,000, 10,000 or 100,000) the probabilities of dying between two successive birthdays observed during the year for which the calculation is done.

Figure 7

Life Expectancy at Different Ages, by Sex, Canada, 1951-1986
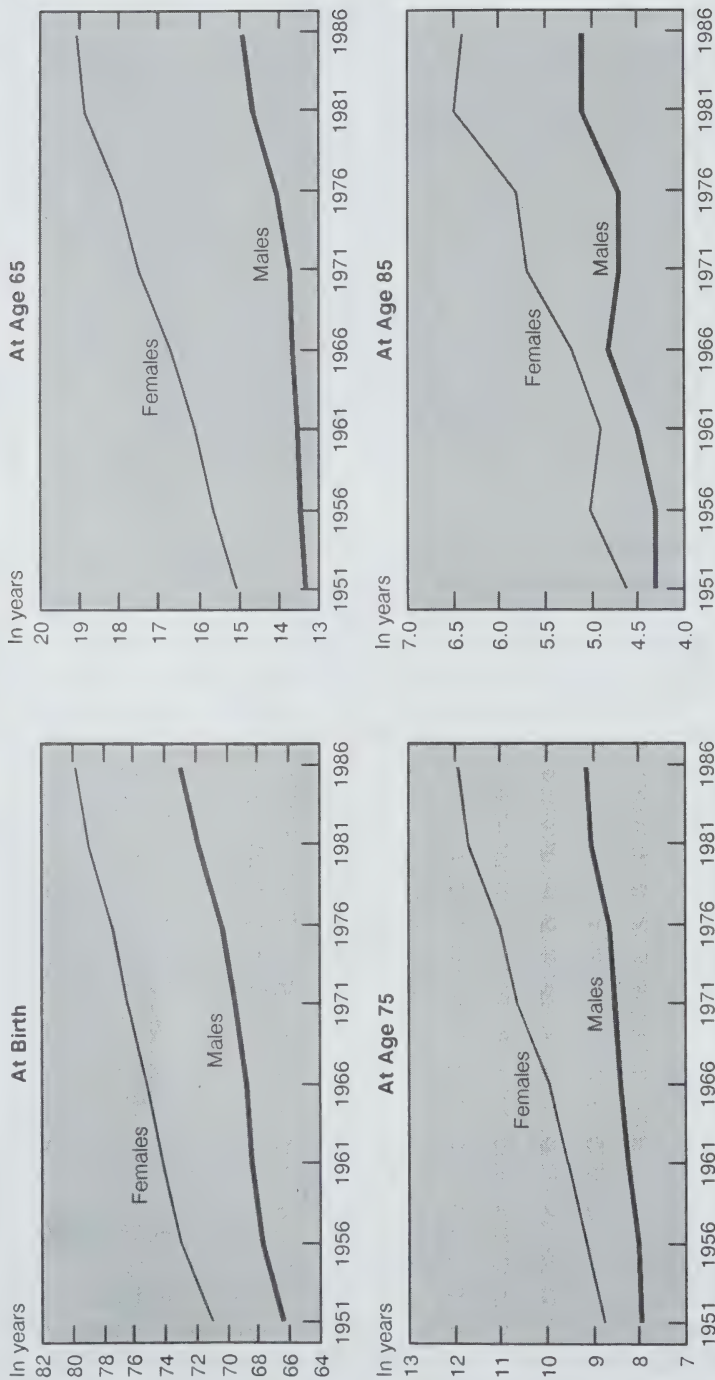
Source: Table A6.

Table 7. Estimate of Proportion of Survivors to Selected Ages According to the Life Table by Sex, Canada, 1891-1986

Year	Age										
	10	20	30	40	50	60	65	70	80	85	e_0
	Males										
1891	0.731	0.701	0.650	0.595	0.522	0.416	0.346	0.263	0.094	0.037	43.2
1921	0.868	0.846	0.815	0.781	0.732	0.644	0.576	0.483	0.226	0.111	58.8
1951	0.945	0.934	0.918	0.896	0.851	0.744	0.659	0.550	0.270	0.135	66.3
1981	0.985	0.977	0.963	0.948	0.914	0.825	0.747	0.640	0.350	0.200	71.9
1986	0.988	0.981	0.969	0.955	0.925	0.846	0.773	0.669	0.376	0.218	73.0
	Females										
1891	0.752	0.718	0.667	0.613	0.552	0.465	0.401	0.320	0.128	0.055	46.5
1921	0.891	0.871	0.837	0.796	0.744	0.660	0.596	0.504	0.250	0.130	60.6
1951	0.956	0.950	0.940	0.923	0.889	0.818	0.756	0.666	0.377	0.208	70.8
1981	0.989	0.985	0.980	0.972	0.952	0.904	0.860	0.797	0.575	0.406	79.0
1986	0.991	0.988	0.984	0.977	0.959	0.914	0.873	0.812	0.594	0.426	79.7

Sources: For 1981: Robert Bourbeau and Jacques Légaré, *Évolution de la mortalité au Canada et au Québec, 1831-1931. Essai de mesure par génération*. Montréal, PUM, Collection "Démographie canadienne", No. 6, 1982, 142 p. 1921 to 1981: Dhruva Nagnur, *Longevity and Historical Life Tables 1921-1981 (Abridged) Canada and the Provinces*, Statistics Canada, Catalogue No. 89-506, 1986. 1986: *Life Tables, Canada and the Provinces, 1985-1987*. Statistics Canada, Health Division, Vital Statistics and Registry Section, September, 1989.

The increase in life expectancy stemming from a drop in mortality rates was considerable from 1951 to 1986, but it was not equal for both sexes (Figure 7). In effect, female life expectancy at birth increased by 9 years, whereas that of males only increased by 6.5 years. This represents a 9.2% improvement for men and a 12.6% improvement for women. At the same time, while women aged 65 in 1986 could expect to live, on average, more than 19 additional years (a gain of 27% compared with their life expectancy in 1951), men could only expect to live for another 14.9 years (a gain of only 12%). However a slight improvement has been noticed since 1976. A gender gap of the same magnitude is observed at ages 75 and 85. At this latter age, women still have a one-in-two chance of living another 6.5 years.

The proportion of survivors at different ages add to the understanding of the mechanism of the drop in mortality (Table 7). At the end of last century, one-quarter of children died before their tenth birthday; fewer than two persons in five could expect to become elderly, and a minimal number reached advanced old age (85 years and over). Women lived three years longer than men and had a life expectancy of around 45.

Already very clear by 1921, the extremely positive, century-long evolution has led to a situation where infant mortality for all practical purposes has now disappeared. Reaching old age has now become the norm, and surviving to advanced ages a common occurrence – especially for women. The lead that

Figure 8
Evolution of Age-specific Survival Probabilities Over Selected Years, by Sex, Canada, 1891-1986

% of survivors
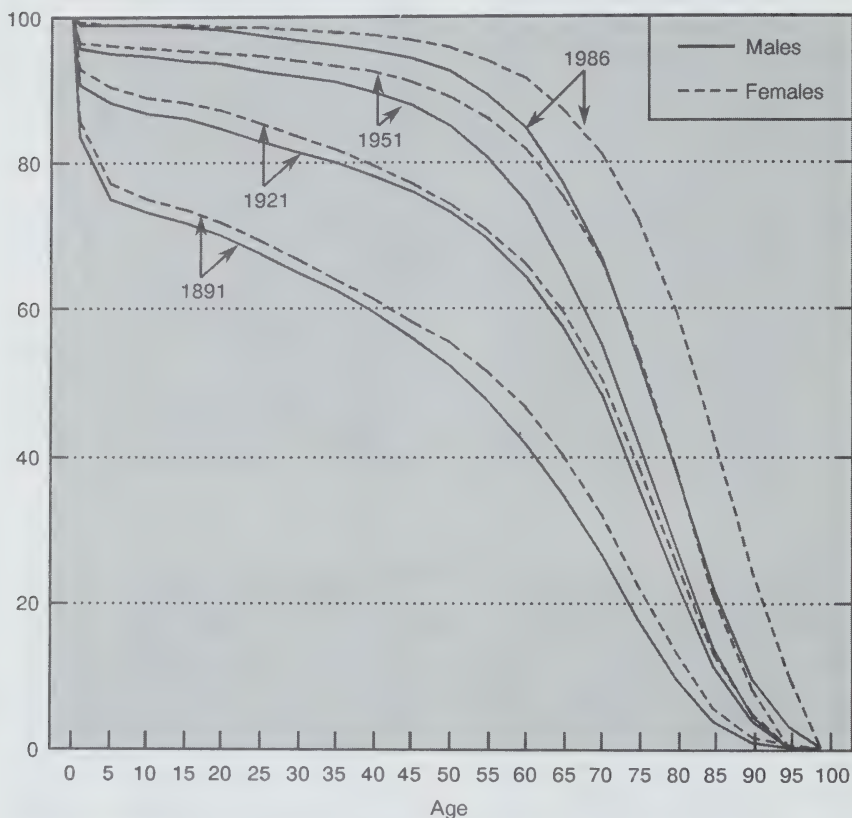
Source: Table A7.

women have over men, moreover, appears very clearly in this table. At age 65 in 1986, the male-female survival ratio was 87% to 77% (1.13); it increased to 2 to 1 at age 85. These differences heavily affect the composition of the elderly population.

The graphic presentation of the proportions of survivors demonstrates the "rectangularization" of the survival curves of each sex (Figure 8). In 1891, after a rapid plunge related to infant mortality, the curves declined regularly with age, with a slight acceleration after age 60. Almost one person in two died before reaching half of the age of the last survivor of the cohort. Since then, the curves

have increasingly flattened, taking on a rather rectangular appearance: the curves decline very slowly up to the upper ages, then very rapidly thereafter. The median age has shown a major increase. The curves show the nature of the progress that has been made: the quasi-elimination of infant deaths and the steep reduction in the number of deaths during adult life.

To say that nowadays people live longer than in the past does not mean that they can expect to reach age 120 instead of 105, but that a larger proportion of people reach very advanced ages, thanks to the progress that has been made in a great number of areas – progress which has largely eliminated premature death. There is not likely to be much more improvement in mortality below age 60; this is particularly true for women, as more than 90% of them survive to that age in 1991. Any improvements in mortality rates will necessarily occur at the upper end of the age spectrum.

"Rectangularization" is less advanced among men. The drop in the proportion of survivors appears as early as age 50; male survival at age 70 in 1990 was equal to that of women thirty-five years earlier. The median age of survivors of the table for men is about 76, whereas that of women had already reached that level in 1951. Once again, these gaps illuminate the causes of the gender imbalance among the elderly that was described in the preceding chapter.

Figure 9
Death Rate by Sex and Age, Canada, 1989

Per 1,000
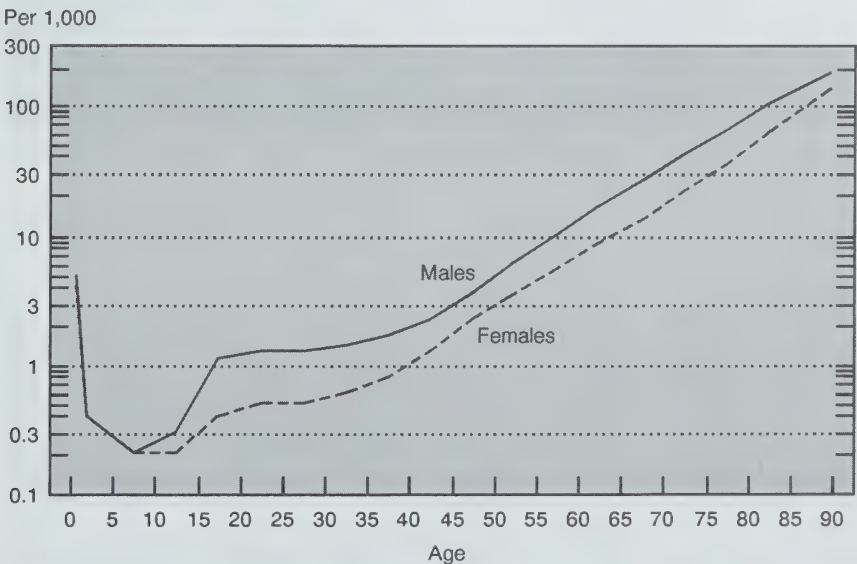
Source: Table A8.

Figure 10
Evolution of Death Rates by Sex and Age Groups, Canada, 1921-1989
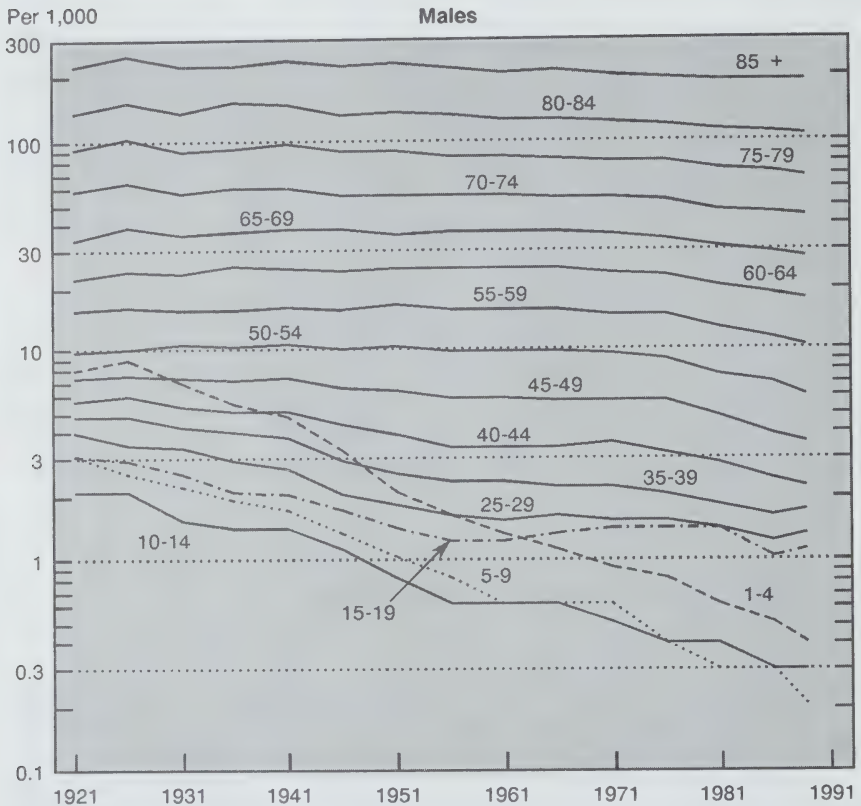
On the one hand, the life expectancy at age "x" is the average number of years lived beyond age "x". On the other hand, using the cumulated proportions of survivors, one can establish the age at which only half of the survivors to age "x" will further survive. The two measures stem from the age-specific rate. This rate is the ratio of the number of deaths among people of a certain age during a year to the number of persons of that age at the mid-year. The series of age-specific rates provides a very detailed picture of the progression of mortality. The most recent series of rates by age group confirm that few people die before age 50. After that age, the rates progress exponentially and, at each age, the mortality rate for men is higher than for women (Figure 9).

Figure 10
Evolution of Death Rates by Sex and Age Groups, Canada, 1921-1989

Per 1,000   **Females**
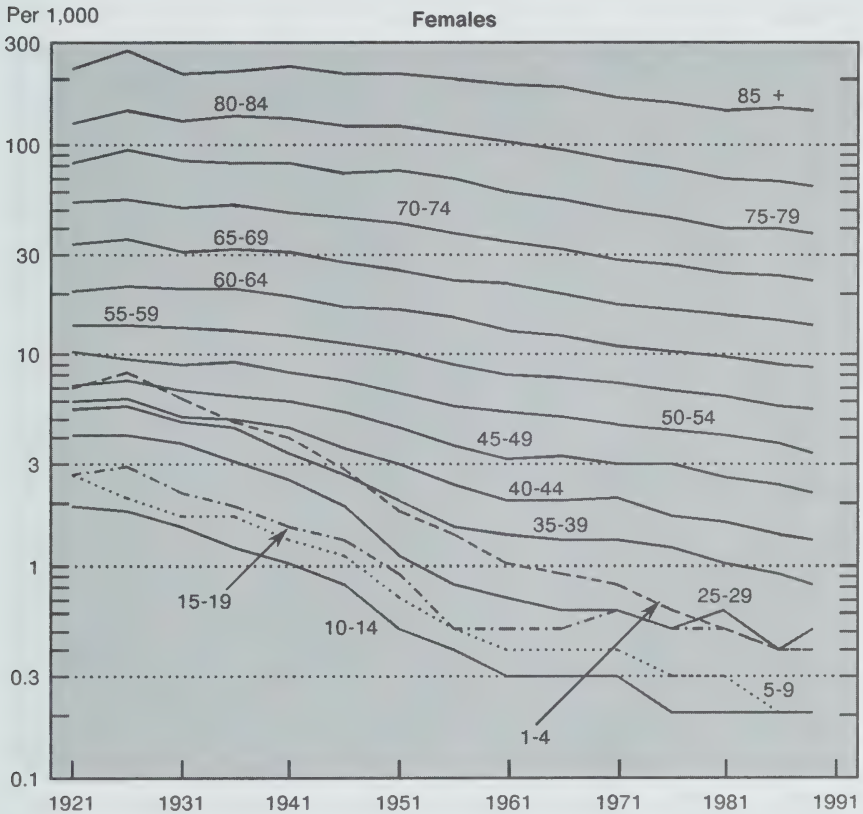
Source: Table A9.

Figure 10 places current rates in the context of their evolution since 1921 – the first year for which vital statistics systematically were available in Canada (with the exception of Quebec, which began to participate in the programme in 1926).[10] It has been established that if the decrease in mortality affects all ages, it is the mortality rate among children in general, and the rate of infants

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[10] Moreover, Quebec's entry into the national system of record keeping that year caused an increase in the rates of almost all ages owing to the unfavourable conditions prevailing in that province at the time, and the relatively large part of the national population for which it accounted.

Figure 11
Evolution of Death Rates by Age Groups and Sex, Canada, 1921-1989 (1921 = 100)
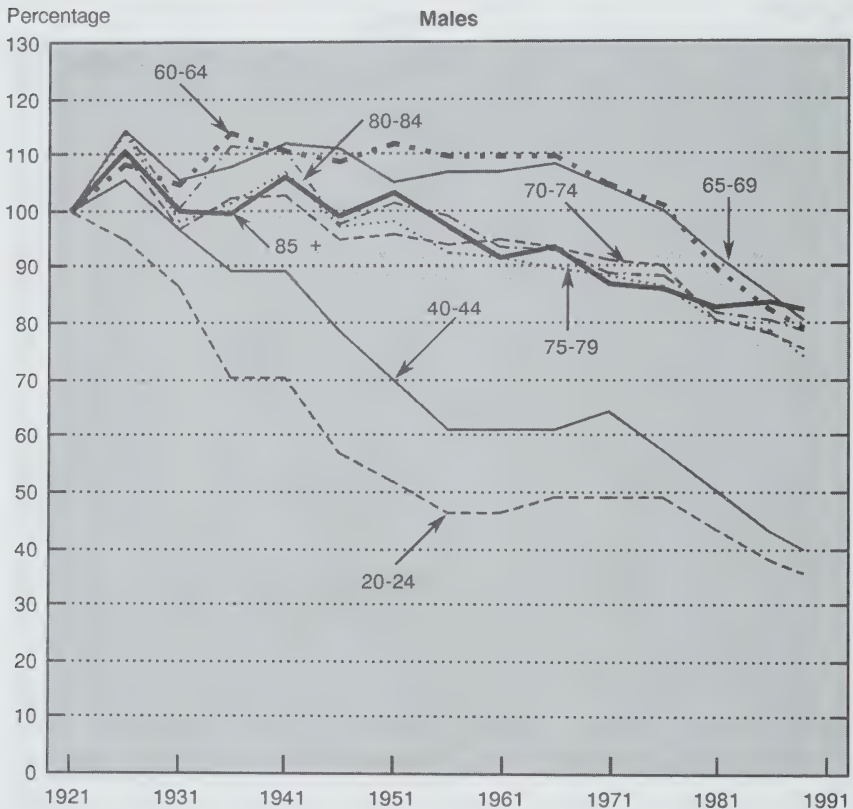
under one year old in particular, which were the most sensitive to progress. Young adults have benefitted from the quasi-eradication of certain diseases (tuberculosis, for example) with the result that only accidents remain a notable cause of death in this segment of life. Finally, the evolution of the age-specific rates beyond age 40 is almost identical for both sexes, though the female mortality rate displays a slightly more pronounced tendency to decline.

The semi-logarithmic scale is employed to draw, in one graph, age-specific rates with very different magnitudes. Using such a scale tends to obscure the changes that occurred in the death rates among the elderly. The changes in value of the rates, therefore, have been expressed as a ratio of their value in 1921 (Figure 11). Among males, if only the elderly group is examined, it appears that

Figure 11
**Evolution of Death Rates by Age Groups and Sex, Canada,
1921-1989 (1921 = 100)**

Percentage

Females

80-84

75-79

60-64

85 +

70-74

65-69

20-24

40-44

1921 1931 1941 1951 1961 1971 1981 1991
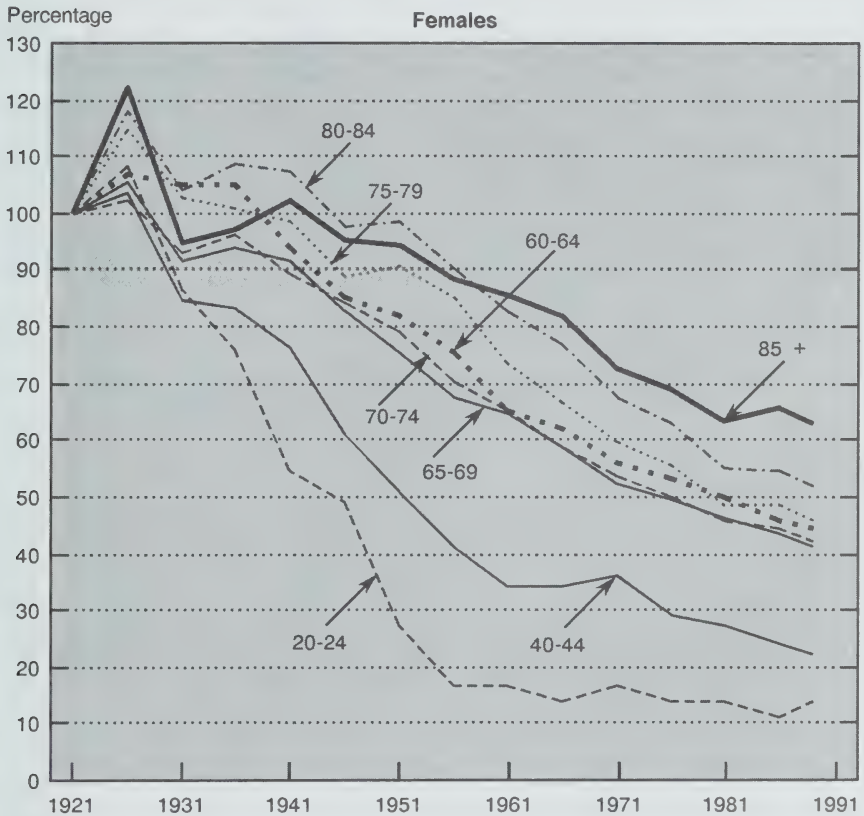
Source: Table A10.

the mortality rates of the youngest have diminished the least. Conversely, among women, the mortality rates least reduced are those in the upper age ranges. The drop in female mortality has been regular since 1941, while the decline has become apparent only since the 1960s males. The mortality rate for men in their sixties was as high in 1971 as it was in 1921. Among the over-65 group, female rates in 1989 represent between 41% and 63% of their 1921 values, while the values are between 74% and 82% for males. While recent reductions in male mortality leave room for hope that the historically increasing gender disparity in mortality will be altered, it is still too early to consider it a trend.

Table 8. Death Rate (per 1,000) for Persons Aged 65 Years and Over,
by Selected Causes of Death, Sex and Age Group,
Canada, 1976 and 1989

	65-69 years		70-74 years		75-79 years		80-84 years		85 years and over	
	1976	1989	1976	1989	1976	1989	1976	1989	1976	1989
Males										
All causes	33.3	26.9	51.5	42.8	77.5	65.8	118.5	105.0	196.2	187.8
Heart diseases	14.0	8.9	21.0	14.8	31.3	22.2	47.9	35.1	79.8	62.3
Cancer	8.9	9.8	13.0	13.9	16.9	18.5	21.6	24.5	23.2	31.1
Cerebrovascular diseases	2.1	1.3	4.7	2.4	8.4	5.0	15.1	9.1	27.2	19.2
Respiratory diseases	2.4	1.9	4.5	3.9	7.7	7.7	13.1	13.9	26.0	30.4
Diabetes	0.6	0.5	0.9	0.9	1.4	1.5	2.1	2.0	2.6	3.0
Accidents	0.9	0.9	1.0	1.1	1.5	1.4	2.0	2.6	4.9	5.5
Other causes	4.4	2.9	6.4	5.1	10.3	8.6	16.7	15.7	32.5	31.5
Females										
All causes	16.5	13.6	26.4	22.1	44.8	36.8	77.0	63.0	155.1	141.2
Heart diseases	5.9	3.5	10.8	6.6	18.4	12.4	32.2	22.4	66.6	52.0
Cancer	5.1	5.8	6.7	7.6	8.8	9.6	11.4	11.2	14.3	15.7
Cerebrovascular diseases	1.5	0.8	3.3	1.7	6.5	3.6	13.5	7.9	26.3	19.2
Respiratory diseases	0.8	0.8	1.4	1.7	2.5	3.0	5.3	5.4	13.9	15.4
Diabetes	0.5	0.4	0.9	0.7	1.5	1.1	1.9	1.9	2.7	2.7
Accidents	0.4	0.4	0.6	0.4	0.8	0.7	1.8	1.4	4.1	4.0
Other causes	2.3	1.6	2.7	2.9	6.3	5.8	10.9	10.5	27.2	26.6

Sources: Statistics Canada, Vital Statistics. 1976, *Births and Deaths*, Catalogue No. 84-206; 1989, *Mortality, Summary List of Causes*, Catalogue No. 82-003S12, 1991, vol. 3, No. 1.

These evolutions in general mortality sum up the evolution of the causes of death by age. Owing to frequent revisions of the nomenclature used in reporting causes of death, it is not a simple matter to present comparable data for causes of death among the elderly over an extended period. Nevertheless, Table 8 presents the rates for the most frequent causes of death by age group for 1976 and 1989.

At each age, heart diseases are always a more frequent cause of death among men than among women. In 1989, they were the cause of 35% to 40% of all male deaths. By comparison, the heart disease death rates among women only reach these levels at age 75. Up to that age, cancer occupies first place. For women, cerebrovascular diseases represent the next most frequent cause of death at advanced ages, followed by respiratory diseases. For men, the order is reversed. The mortality related to each of these causes increases with age and, as a consequence, so does total mortality. More generally speaking, the hierarchy of causes within age groups is almost identical except for cancer, the relative

importance of which tends to decline with age. This is much less due to progress against cancer-related deaths than it is to major headway being made in the fight against circulatory disease-related deaths among the young elderly, and to smaller progress in reducing circulatory disease-related deaths among the very old (see *Report on the Demographic Situation in Canada, 1992*).

This observation is supported by changes in cancer-related mortality between 1976 and 1989. Whereas almost all other causes of death for all age groups registered declines – sometimes considerable – deaths due to cancer grew between 1976 and 1989 to the point where there are now more cancer-related deaths among young females than deaths due to heart disease. While it is true that men have higher mortality rates in general, progress in the area of male mortality has been more substantial. This is not to say that the fight against cancer has been fruitless. What is measured by the type of analysis used here

Table 9.   Average Age and Median Age of All Deaths, and of Deaths Occurring Among the 65 and Over Age Group, by Sex, Canada, 1951-1989

Year	Males		Females		Total		Number of deaths	% of total deaths
	Average age	Median age	Average age	Median age	Average age	Median age		
Total deaths								
1951	56.3	65.5	58.7	68.8	57.3	66.4	125,823	..
1956	58.0	67.0	60.6	70.6	59.1	67.9	131,961	..
1961	59.7	67.9	63.1	72.2	61.1	69.2	140,985	..
1966	62.0	68.4	65.9	73.5	63.6	70.0	149,863	..
1971	63.3	68.5	68.2	74.7	65.3	70.5	157,272	..
1976	64.3	68.9	70.1	75.6	66.7	71.2	167,009	..
1981	65.4	69.7	71.1	75.8	67.9	72.0	171,029	..
1986	67.2	71.3	72.9	77.3	69.8	73.2	184,224	..
1989	67.9	72.0	73.4	77.9	70.4	73.9	190,965	..
Deaths among population aged 65 and over								
1951	76.6	75.9	78.2	77.8	77.4	76.7	67,489	53.6
1956	76.8	76.1	78.6	78.2	77.6	77.0	74,960	56.8
1961	77.3	76.8	79.1	78.7	78.1	77.6	83,374	59.1
1966	77.7	77.4	79.7	79.6	78.6	78.4	91,262	60.9
1971	77.9	77.5	80.3	80.4	79.0	78.8	97,993	62.3
1976	77.8	77.0	80.6	80.7	79.1	78.8	107,144	64.2
1981	77.7	77.0	80.9	81.0	79.2	78.7	114,616	67.0
1986	78.0	77.3	81.4	81.5	79.7	79.3	131,115	71.2
1989	78.2	77.7	81.6	81.7	79.9	79.6	138,806	72.7

Figure 12

Percentage Distribution of Deaths of Population Aged 65 and Over, by Age and Sex, Canada, 1951 and 1989
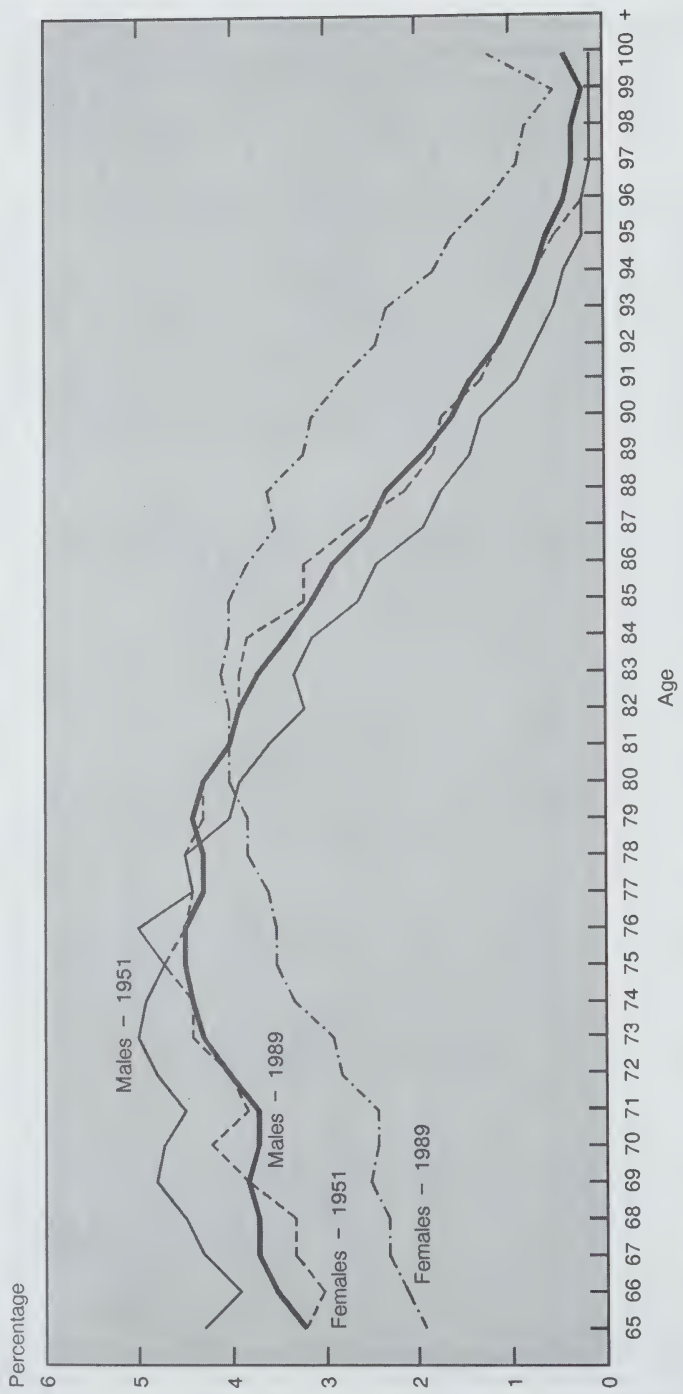
Source: Table A11.

is the differential rate of change in the success gained in the fight against one or another causes of death. This gives the appearance that, since the measure of success against heart diseases has been greater, the other fight seems in vain and the disease looks like it is gaining ground. Nevertheless, for all ages, male mortality rates due to cardiac and respiratory diseases in 1989 still remained well above the level of female mortality from the same causes in 1976.

Up to this point, great emphasis has been placed on levels of mortality and the importance of their influence on the age structure of survivors. One spectacular phenomenon however, is the combined effect of the drop in mortality and the ageing of the population, which is visible in the change occurring in the average age at death. In 1951, half of the 125,000 deaths in Canada occurred to persons older than 66, but the average age of all deaths was only 57 years; 40 years later, the 200,000 deaths occurred on average to persons 13 years older, and the median age had climbed more than seven years (Table 9). This evolution has affected both sexes, but as always, it is more pronounced among women. In addition, the distribution of deaths has clustered around the average, owing to the elimination of "premature" deaths and the resulting "rectangularization" of the survival curves. Nearly three deaths in four now occur among the elderly, compared with about half in 1951.

Looking at the average age at death for the group of elderly persons only, one notices that men, on average, are dying at age 78 – one-and-a-half years later than in 1951. For women, the average age is 81, that is, 3.5 years later than in 1951. This ageing of the mean and median age summarizes the difference in the percent distribution of deaths by age in 1951 and 1989. Especially among women, it confirms a shift of death toward the upper ages (Figure 12). The proportion of deaths to women of very old age (85 and over) is growing rapidly, a situation which reinforces the interest already expressed in socio-economic issues related to old age.

International Migration

Although few elderly persons are permanent migrants, the importance of international migration in the ageing of the population is reflected in the comparison between the number of persons who migrated here when they were young and who reach more advanced ages versus those reaching these ages who were born in the country. More than ten million immigrants have settled in Canada since the beginning of the 20th century, and their arrival has been irregular: large waves alternating with periods of low immigration, depending on the prevailing economic conditions and the wars (Figure 13). Less known are the more than five million emigrants,[11] leaving a net positive balance of around five million.

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[11] Up to 1950, the estimates vary according to different sources (Keyfitz, McDougall, Ryder and Sametz) and since 1950 the numbers published by Statistics Canada are also only estimates. According to those figures the total number of emigrants should be comprised between 5.4 and 7.8 millions.

Figure 13
Annual Number of International Immigrants and Estimated Emigrants, Canada, 1900-1990

In thousands
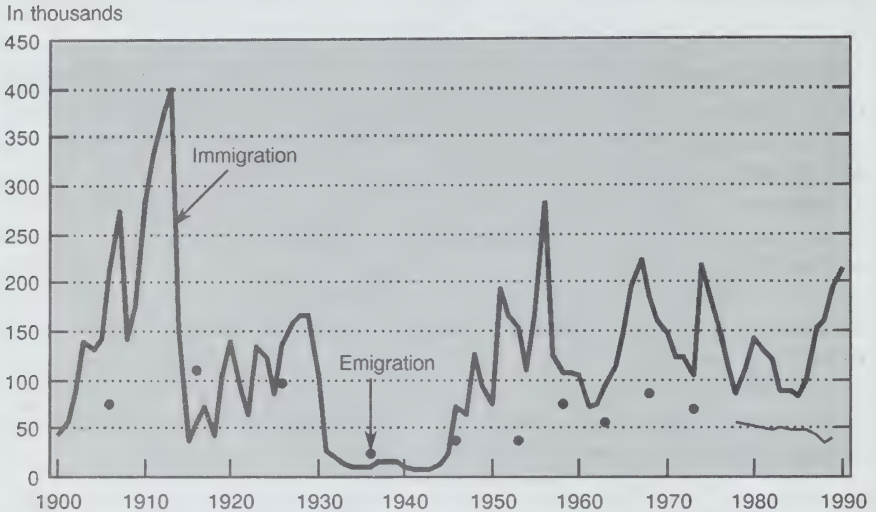
Note: Since the yearly data for emigration is not available, a few reference years have been selected.
Source: Table A12.

The consequences of these movements are that close to 38.8% of Canada's elderly in 1961 were not born in Canada (Table 10). That proportion dropped between 1961 and 1986, as the immigrant cohorts who arrived in Canada from the 1920s to 1945 began to arrive at the age threshold. This proportion will begin to increase shortly because of the high migratory balance of the 1950s. Migration is therefore a growth factor both for the Canadian population as a whole and for that of the elderly; however, one must not jump to the conclusion that they accentuate ageing. The regular arrival of immigrants, if they are on average younger, has an effect to a certain extent comparable to a growth in the number of births. Migration tends to rejuvenate the population, dampening the trends toward both low fertility and low mortality. The extent to which the level of ageing in Canada is linked to immigration, makes clear what would occur if net migration were to slow or dry up through, for example, strong emigration among youth.

Table 10. Number and Proportion of Persons Born Outside Canada,
by Broad Age Group, Canada 1961-1986[1]

Age group	1961		1971		1981		1986	
	Number	%	Number	%	Number	%	Number	%
0-19 years	382,422	5.0	437,445	5.2	475,810	6.1	364,215	5.0
20-44 years	1,049,063	17.3	1,357,640	18.6	1,645,830	17.3	1,662,580	16.0
45-64 years	872,899	27.6	863,315	21.4	1,093,425	23.5	1,217,480	25.0
65 years and over	539,879	38.8	636,385	36.5	652,090	27.6	663,875	24.6

[1] Since 1971, excluding institutional residents.

Sources: Statistics Canada, Censuses of Canada. For 1986, *Ethnicity, Immigration and Citizenship*, Catalogue No. 93-109. For previous censuses, equivalent publications.

Thus stands the Canadian scene in terms of ageing and the evolution of the fundamental demographic factors which underlie it. Interest will now turn to the characteristics of the elderly themselves: Where do they live? What social and economic conditions are they experiencing? What is their state of health? On this type of information hangs the deliberations regarding research into ways to handle ageing, and the political adaptations required to meet conditions which will assume their full proportions in the 21st century.

CHAPTER IV

GEOGRAPHICAL DISTRIBUTION AND MOBILITY
OF THE ELDERLY

The geographical distribution of the elderly is obviously relevant to the study of ageing. The problems encountered by older people differ according to whether they live in cities or in the country, and the solutions vary as well. The territorial distribution of the elderly affects the spatial distribution of various levels of services available to them. On the other hand, the location and availability of services can be at the origin of a move of elderly persons. What are the main features regarding the settlement and territorial distribution of the elderly in Canada? Is their geographical mobility significantly different from the population at large? Is there such a phenomenon as retirement migration? This chapter provides some answers to these questions.

Settlement

According to Canadian census definitions from 1951 to 1971, urban settlement referred to all residences in incorporated cities, towns, and villages of at least 1,000 people, and also to unincorporated ones meeting the same criterion as long as their population density was at least 1,000 people per square mile. Since 1981, this definition has been narrowed to include only those places meeting both criteria of population size and density. During the observation period (1951 to 1986), the proportion of the elderly living in urban settlements increased. Table 11 indicates that in 1951 slightly less than two-thirds of the elderly lived in urban areas, while in 1986, more than three-quarters were city dwellers. The elderly do not differ from the overall population: 62% of Canadians lived in urban areas in 1951 and, 76% in 1986. If this trend continues, according to Statistics Canada's projections, in 2025, 85% of the elderly population will live in urban centres. There is a slight gender difference. In 1986, four women out of five lived in urban areas, a slightly higher proportion than among men. This difference was already apparent in 1961 among the elderly, as well as in the general population.

A more detailed analysis provides even more complex observations. As data for 1991 were not available at the time of analysis, those for 1986 were used (Table 12). However, as demographic situations are not subject to sudden reversals, the comments remain valid. Results show that two-thirds of urban elderly lived in cities of more than 100,000 people, while 18% lived in towns with populations between 10,000 and 100,000. While "rural" may be opposite to "urban", the term does not necessarily imply agriculture. Thus the elderly, as they were defined in the census, were neither farm operators, nor living in

Table 11. Number and Proportion of Persons 65 Years and Over, by Sex and Rural/Urban Residence, Canada, 1951-1986

	Urban		Rural		Total	
	Number	%	Number	%	Number	%
1951:						
Males	356.8	61.0	227.9	39.0	584.7	100.0
Females	323.3	64.4	178.1	35.6	501.4	100.0
Total	680.1	62.6	406.0	37.4	1,086.1	100.0
1961:						
Males	441.4	65.5	232.7	34.5	674.1	100.0
Females	527.2	73.5	189.7	26.5	717.0	100.0
Total	968.6	69.6	422.4	30.4	1,391.1	100.0
1971:						
Males	557.7	71.3	224.1	28.7	781.8	100.0
Females	762.3	79.2	200.2	20.8	962.5	100.0
Total	1,320.0	75.7	424.3	24.3	1,744.3	100.0
1981:						
Males	746.1	73.8	264.7	26.2	1,010.8	100.0
Females	1,096.8	81.2	253.3	18.8	1,350.1	100.0
Total	1,842.9	78.1	518.0	21.9	2,360.9	100.0
1986:						
Males	848.3	74.9	285.0	25.1	1,133.3	100.0
Females	1,277.1	81.6	287.1	18.4	1,564.2	100.0
Total	2,125.4	78.8	572.1	21.2	2,697.5	100.0

Sources: Statistics Canada, 1951, 1961, 1971, 1981 and 1986 Censuses of Canada. For the 1986 Census, *Urban and Rural Areas* (Part I and II), Catalogue Nos. 94-129 and 94-130. For previous censuses, equivalent publications.

a farm operator's household. When placed in a worldwide context, these observations no longer appear trivial. Assuming that the definitions refer to essentially identical realities, Canada, differs significantly from European rural areas that are "over aged". Canada's rural population is even slightly younger than its urban population. That is, less than 10% of the population (9.6% exactly) living in rural areas is more than 65 years of age, compared with 11% in urban areas. The difference is mainly due to the female population. A larger proportion of women (12.9%) tends to live in urban areas. Men make up over 9% of the urban population. Another noteworthy observation is that small towns are "older" than large ones. The highest proportions of seniors are found in small towns (11.9% as compared to 10.3%), and this observation holds true for both men and women.

Table 12. Number and Proportion of Persons 65 Years and Over by Sex and Rural/Urban Status of Residence, Canada, 1986

	Urban				Rural		
	CMA[1]	CA[2]	Other	Total	Farm	Rural non-farm	Total
Number (in thousands):							
Males	576.4	158.1	113.8	848.3	33.1	252.0	285.1
Females	883.3	231.0	162.8	1,277.1	22.5	264.7	287.2
Total	1,459.7	389.1	276.6	2,125.5	55.6	516.7	572.3
Proportions (%):							
Males	67.9	18.6	13.4	100.0	11.6	88.4	100.0
Females	69.2	18.1	12.7	100.0	7.8	92.2	100.0
Both sexes	68.7	18.3	13.0	100.0	9.7	90.3	100.0
Proportion of the total population (%):							
Males	8.4	10.0	11.8	9.0	6.9	9.7	9.3
Females	12.2	13.7	16.2	12.9	5.5	10.7	9.9
Both sexes	10.3	11.9	14.1	11.0	6.2	10.2	9.6

[1] Census Metropolitan Area, including the urban fringe.
[2] Census agglomeration, including the urban fringe.

Source: Statistics Canada, 1986 Census of Canada Profile Series, *Urban and Rural Areas*, Catalogue No. 94-129.

The evolution of settlement relative to age over the observation period provides valuable and unexpected information. Early in the period (in 1951 and 1961) the proportion of urban residents in Canada decreased as age increased. By 1986 the situation reversed: the older the people, the more likely they were to live in urban areas (Table 13). There may be several reasons for this gradual shift. In spite of the legendary mobility of the North American population, this reversal which occurred over some 35 years, leads to the conclusion that the population aged on location. The youths who were part of the rural-urban migration in the 1950s have become the elderly of the cities. Neither declines in fertility and mortality, a reduction in rural-urban migration nor the age profile of immigrants have had sufficient impact on the age structure to alter this situation. In addition, other explanations may be offered. Changes in lifestyle which translated, for instance, into the universalization of institutional housing, a trend which, furthermore, increases with age. Also, since hospitals and emergency units are concentrated in cities, people concerned about their health prefer living close to such services. Although "retirement in the country" not long ago was a model common in many European countries, it does not apply to Canadian life.

Table 13. Proportion of Persons 65 Years and Over, by Age Group, Sex and Rural/Urban Residence, Canada, 1951-1986

	Urban	Rural	Urban	Rural	Urban	Rural
	65-69 years		70-74 years		75-79 years	
1951:						
Males	59.9	40.1	59.2	40.8	56.8	43.2
Females	67.4	32.6	67.4	32.6	65.7	34.3
Total	63.4	36.6	63.3	36.7	61.3	38.7
1961:						
Males	65.8	34.2	65.7	34.3	65.2	34.8
Females	73.0	27.0	74.3	25.7	73.8	26.2
Total	69.5	30.5	70.1	29.9	69.6	30.4
1971:						
Males	71.0	29.0	71.1	28.9	71.4	28.6
Females	78.1	21.9	79.1	20.9	79.9	20.1
Total	74.7	25.3	75.5	24.5	76.3	23.7
1981:						
Males	73.5	26.5	73.5	26.5	74.6	25.4
Females	81.0	19.0	81.0	19.0	82.3	17.7
Total	77.7	22.3	77.8	22.3	79.1	20.9
1986:						
Males	73.9	26.1	74.3	25.7	75.5	24.5
Females	79.1	20.9	81.1	18.9	83.0	17.0
Total	76.7	23.3	78.1	21.9	79.9	20.1
	80-84 years		85 years and over		65 years and over	
1951:						
Males	56.3	43.7	54.2	45.8	61.0	39.0
Females	65.3	34.8	63.8	36.2	64.4	35.6
Total	61.1	38.9	59.6	40.4	62.6	37.4
1961:						
Males	65.1	34.9	63.2	36.8	65.5	34.5
Females	73.8	26.2	72.0	28.0	73.5	26.5
Total	69.7	30.3	68.3	31.8	69.6	30.4
1971:						
Males	72.1	27.8	72.8	27.2	71.3	28.7
Females	80.6	19.4	80.3	19.7	79.2	20.8
Total	77.0	23.0	77.3	22.6	75.7	24.3
1981:						
Males	75.4	24.6	76.9	23.1	73.8	26.2
Females	83.4	16.6	84.4	15.6	81.2	18.8
Total	80.5	19.5	82.0	18.0	78.1	21.9
1986:						
Males	76.8	23.2	78.1	21.9	74.9	25.1
Females	84.3	15.7	85.5	14.5	81.6	18.4
Total	81.5	18.5	83.3	16.7	78.8	21.2

Sources: Statistics Canada, 1951, 1961, 1971, 1981, 1986 Censuses of Canada. For 1986, *Urban and Rural Areas*, Catalogue No. 94-130 and equivalent publications for previous years.

Geographic Distribution

Not surprisingly, the huge differences in size between Canadian provinces favour a concentration of the elderly in the three largest provinces. In 1991, three in four persons aged 65 and over lived either in Quebec, Ontario, or British-Columbia, and three out of five lived in the Quebec/Ontario region. The ageing level in each province is a more complex issue (Table 14). In 1951, British Columbia fulfilled the dream of "happy retirement" for wealthy Canadians, thanks to a tiny portion of its territory shielded from the harshness of winter. British-Columbia's statistics differed from other provinces wherein almost 11% of its population was over the age of 65. In contrast, Quebec's population was still very young as a result of persistently high fertility, leaving little space in the age pyramid for people over age 65 (5.7%). Here again, in 40 years, the changes that occurred in the two major "engines" of demography (mortality and fertility) resulted in an increase in ageing in all provinces. In six of them, the elderly account for over 12% of the provincial population. Alberta and Newfoundland stand out for their relatively young populations.

As differential mortality and fertility between provinces are in the process of disappearing, it is internal migration which now accounts for interprovincial differences regarding ageing and other demographic aspects. In some countries, certain regions attract migrants because of their favourable climates. The "Sunbelt" in the United States, for instance, is increasingly draining the populations from northern and midwestern states where the population had concentrated during the nineteenth century to be close to the manufacturing industries at that time. In Canada, however, economic factors have always and continue to attract interregional migrants: people move to improve their economic situation. This is in part what accounts for the level of low ageing in Alberta. In the early 1980s, this province received a large number of youths who were hired by industries which appeared in the wake of the boom. Not all the newcomers to Alberta left after the oil boom, and their presence among the adult segment of the population helps to maintain a relatively low proportion of elderly persons. Higher ageing in eastern Canada which this study is forecasting, must also be examined critically. It results from deliberately choosing to pursue a century-old trend of the Canadian population drifting to the west. This migration leaves the older residents behind.

Migration and Mobility

While immigrants are precisely accounted for, there is no systematic accounting of international emigrants. Their number therefore can only be estimated by indirect means. This lack of data is even more regrettable because the number and age of migrants would be useful information. Nonetheless, the latest available estimates confirm the impression that very few old people migrate permanently. Seemingly, slightly more than 8,000 entered Canada in the 1990-1991 Census year, and less than 1,000 apparently left the country

Table 14.   Numbers (in thousands) and Proportion of Elderly People
in the Total Population of the Provinces, Territories
and the Country, 1951-2011

		New-foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
1951	No.	23.5	9.7	54.9	39.0	232.1	400.4
	%	6.5	9.9	8.5	7.6	5.7	8.7
1961	No.	26.9	10.9	63.4	46.9	306.3	508.1
	%	5.9	10.4	8.6	7.8	5.8	8.1
1971	No.	32.1	12.3	72.5	54.8	413.0	644.3
	%	6.2	11.0	9.2	8.6	6.9	8.4
1981	No.	43.8	14.9	92.6	70.6	569.4	868.2
	%	7.7	12.2	10.9	10.1	8.8	10.1
1991	No.	55.2	17.1	113.3	88.1	770.9	1,183.5
	%	9.7	13.2	12.6	12.2	11.2	11.7
2001	No.	67.2	19.3	129.2	101.4	975.7	1,507.2
	%	11.9	14.3	13.6	13.7	13.0	12.9
2011	No.	83.8	22.5	152.1	119.0	1,210.9	1,848.8
	%	15.1	16.3	15.5	16.0	15.3	14.3

		Mani-toba	Saskat-chewan	Alberta	British Columbia	Yukon	Northwest Territories	Canada
1951	No.	65.5	67.2	66.9	126.1	0.5	0.4	1,086.3
	%	8.4	8.1	7.1	10.8	5.1	2.7	7.8
1961	No.	83.3	85.6	93.1	165.6	0.5	0.6	1,391.1
	%	9.0	9.2	7.0	10.2	3.2	2.6	7.6
1971	No.	95.4	94.9	118.6	205.2	0.5	0.8	1,744.5
	%	9.6	10.2	7.3	9.4	2.8	2.2	8.1
1981	No.	121.8	116.2	163.4	298.2	0.7	1.3	2,361.0
	%	11.9	12.0	7.3	10.9	3.2	2.9	9.7
1991	No.	146.6	139.9	230.6	422.0	1.1	1.6	3,170.0
	%	13.4	14.2	9.1	12.9	4.0	2.8	11.6
2001	No.	161.8	150.8	322.8	529.9	2.2	3.1	3,970.5
	%	13.8	14.2	10.7	13.8	6.6	4.8	12.9
2011	No.	179.6	162.1	421.8	652.1	3.5	4.8	4,861.0
	%	14.3	14.5	12.4	15.4	9.6	6.6	14.6

Sources: Statistics Canada, 1991 Census of Population, *Age, Sex and Marital Status*, Catalogue No. 93-310. For previous censuses, equivalent publications. For the years 2001 and 2011, population projections produced by Statistics Canada's Demography Division.

Table 15. Number of International Migrants Aged 65 Years and Over, by Sex and Age Group, Canada, Census Year 1990-1991

	65-69 years	70-74 years	75 years and over	65 years and over
	Immigrants			
Males	1,644	980	838	3,462
Females	2,017	1,306	1,395	4,718
Total	3,661	2,286	2,233	8,180
	Emigrants			
Males	201	110	103	414
Females	259	149	108	516
Total	460	259	211	930

Source: Population Estimates Section, Demography Division, Statistics Canada.

(Table 15). Obviously, retired persons do not emigrate from Canada in large numbers. Their cross-border migrations, mainly towards the southern regions of the United States, cannot be traced even through the stratagems of demographic analysis, because these persons continue to maintain a Canadian residence. They are, therefore, considered travellers and not migrants. From this perspective, it would seem relevant to consider what would happen to these people if the advantages of keeping their residences in Canada were to disappear. That could happen as an outcome of an economic and political restructuring of North America.

As observed in 1991, the proportion of those who were born in Canada varies considerably according to the age group among the elderly population (Table 16). This situation results from variations in the intensity of past migratory exchanges. In contrast, a comparison between the province of residence of Canadian-born people and the province where they were born shows remarkably constant results: regardless of the age group, in 1991, about four out of five elderly lived in their native province. Furthermore, the situation was the same for the people 10 years younger in 1981. Once again this study gives no indication of people returning to their native land, at retirement for instance. Such behaviour would have translated into an increase in corresponding cohorts in 1981 and 1991, in the proportion of people living in their province of origin.

Table 16. **Proportion of Elderly Persons Born in Canada, and Their Proportion
Living in the Province of Birth, by Age Group, 1991**

	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over	65 years and over
Proportion born in Canada	72.7	77.2	76.8	69.9	58.8	73.3
And of them:						
The proportion residing in their province of birth	78.5	77.7	78.1	79.6	80.1	78.3

Source: Statistics Canada, tabulations from the "1986 Census public use microdata file on individuals".

What is known about individual mobility comes from comparing the current residence of census respondents with the residence occupied five years earlier. The 1991 Census will allow a more refined analysis because it will provide the place of residence one year earlier. This question, however covers only survivors who have not emigrated; any moves during the five-year period remain unknown. Thus, unless an *ad hoc* survey is conducted, the mobility of the elderly cannot be analyzed precisely. These persons can, however, be classified according to whether or not their place of residence has changed when they are approaching old age. Unfortunately, census data, except those for 1971, do not include institutional residents whose place of residence changed by necessity to another more or less distant residence. Because it is so important to society, it is necessary to examine the data that are available to shed some light on this issue.

Slightly more than one person out of five over 65 years of age in 1986 had moved at least once to another dwelling during the five previous years (Table 17), a proportion indicating a lower mobility than that reported in 1981. Women appear to be slightly more mobile than men, but only marginally, and this is not a new phenomenon. Migration within the same town usually accounts for three-fifths of moves, among both men and women. And in only 9% of cases did the changes in residence noted at census involve the crossing of town limits (most of the time) or provincial or international borders.

Comparing the mobility of older people with that of the whole population highlights the specific features of the elderly group (Figure 14). The latter are far less mobile, as expected, at ages when people are said to be seeking to remain settled unless they are forced to stay. However, when a move occurs, it tends to be a simple local move (as it would be for the younger counterparts) rather than a migration.

Table 17. Mobility Status[1] of the Population Aged 65 and Over, Canada, 1961-1986 (numbers in thousands)

| | Total | | Non-movers | | Movers | | | | | |
| | | | | | Total | | Non-migrants | | Migrants | |
	Number	%	Number	%	Number	%	Number	%	Number	%
1961:										
Males	622.8	100.0	460.1	73.9	162.7	26.1	103.5	16.6	59.2	9.5
Females	658.3	100.0	470.0	71.4	188.3	28.6	121.7	18.5	66.6	10.1
Total	1,281.1	100.0	930.1	72.6	351.0	27.4	225.2	17.6	125.8	9.8
1971:										
Males	782.6	100.0	548.2	70.0	234.4	30.0	138.6	17.7	95.8	12.2
Females	961.3	100.0	645.9	67.2	315.4	32.8	192.0	20.0	123.4	12.8
Total	1,743.9	100.0	1,194.1	68.5	549.8	31.5	330.6	19.0	219.2	12.6
1981:										
Males	954.7	100.0	717.8	75.2	236.9	24.8	133.3	14.0	103.6	10.9
Females	1,229.9	100.0	894.9	72.8	335.0	27.2	202.8	16.5	132.2	10.7
Total	2,184.6	100.0	1,612.7	73.8	571.9	26.2	336.1	15.4	235.8	10.8
1986:										
Males	1,072.0	100.0	851.3	79.4	220.7	20.6	123.4	11.5	97.3	9.1
Females	1,423.1	100.0	1,102.4	77.5	320.7	22.5	193.0	13.6	127.7	9.0
Total	2,495.1	100.0	1,953.7	78.3	541.4	21.7	316.4	12.7	225.0	9.0

[1] Mobility status is defined by people's place of residence at the time of a given census compared to where they were residing five years earlier. Non-migrants are people who have moved to another residence within the same municipality. Migrants are those who moved from one city to another, from one province to another, or from one country to another. Hence, they include those people who have arrived in the country during the previous five years. The figures for 1961, 1981 and 1986 do not include institutional residents.

Sources: Statistics Canada, Census of Canada. For the 1986 Census, The Nation Series, *Mobility Status and Interprovincial Migration*, Catalogue No. 93-108. For previous censuses, equivalent publications.

Figure 14
Mobility Status for Population Aged 5 and Over, and 65 and Over, Canada, 1986

Percentage
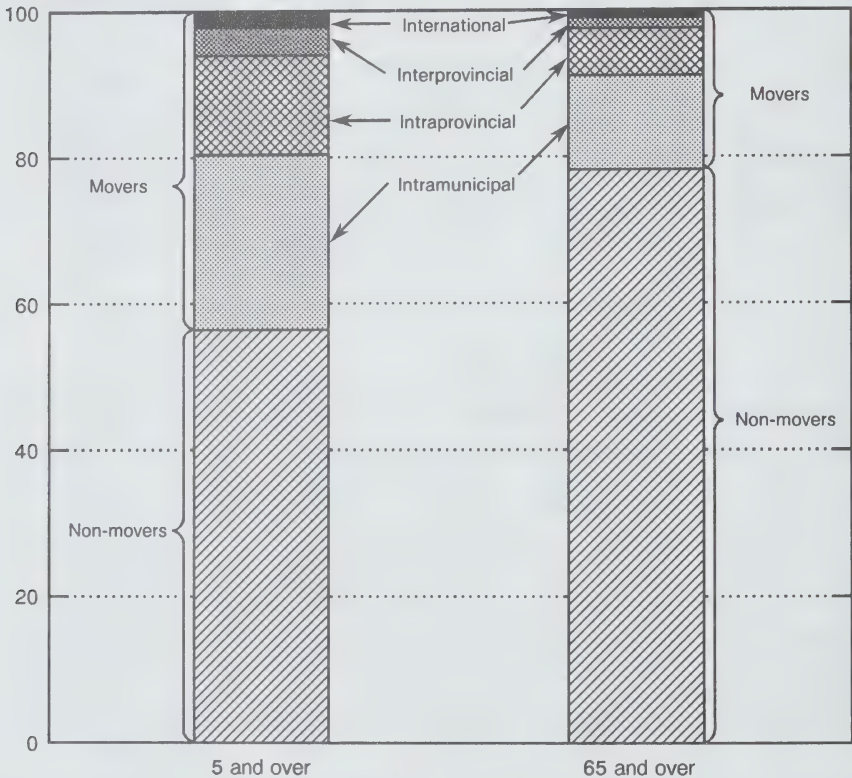
Source: Table A13.

This sedentary state does not seem to fluctuate by age within the group. The slight upward trend observed in Table 18 probably results from the fact that institutional residents, whose number naturally increases with age, are not taken into account. The proportions among both men and women are remarkably constant. One would have expected the majority of the 65 to 69 sub-group to differ from the others toward the end of their working life. This is not the case.

Table 18. Mobility Status of the Population Aged 65 and Over by Age Group and Sex in 1986, Canada (numbers in thousands)

| | Total | | Non-movers | | Movers | | | | | |
| | | | | | Total | | Non-migrants | | Migrants | |
	Number	%	Number	%	Number	%	Number	%	Number	%
65-69 years:										
Males	412.7	100.0	320.2	77.6	92.5	22.4	50.0	12.1	42.5	10.3
Females	498.2	100.0	380.0	76.2	118.7	23.8	67.1	13.5	51.6	10.4
Total	910.9	100.0	700.2	76.8	211.2	23.2	117.1	12.9	94.1	10.3
70-74 years:										
Males	315.7	100.0	255.6	81.0	60.1	19.0	31.0	9.8	29.1	9.2
Females	409.0	100.0	313.3	76.6	95.7	23.4	58.3	14.3	37.5	9.2
Total	724.7	100.0	568.9	78.5	155.8	21.5	89.3	12.3	66.6	9.2
75-79 years:										
Males	198.3	100.0	162.9	82.1	35.4	17.9	20.2	10.2	15.2	7.7
Females	269.9	100.0	212.8	78.8	57.1	21.2	36.0	13.3	21.2	7.9
Total	468.2	100.0	375.7	80.2	92.5	19.8	56.2	12.0	36.4	7.8
80-84 years:										
Males	98.0	100.0	79.1	80.7	18.9	19.3	12.5	12.8	6.4	6.5
Females	155.8	100.0	122.6	78.7	33.2	21.3	22.2	14.2	11.1	7.1
Total	253.8	100.0	201.7	79.5	52.1	20.5	34.7	13.7	17.5	6.9
85 years and over:										
Males	46.4	100.0	36.4	78.4	10.0	21.6	6.0	12.9	4.0	8.6
Females	91.4	100.0	75.1	82.2	16.3	17.8	9.9	10.8	6.5	7.1
Total	137.8	100.0	111.5	80.9	26.3	19.1	15.9	11.5	10.5	7.6
65 years and over:										
Males	1,072.1	100.0	851.3	79.4	220.7	20.6	123.4	11.5	97.3	9.1
Females	1,423.1	100.0	1,102.4	77.5	320.7	22.5	193.0	13.6	127.7	9.0
Total	2,495.2	100.0	1,953.7	78.3	541.4	21.7	316.4	12.7	225.0	9.0

Source: Statistics Canada, tabulations from the ''1986 Census public microdata file on individuals''.

Figure 15

Proportion of Population Who Moved Between 1981 and 1986, by Age in 1986[1], Canada

Percentage
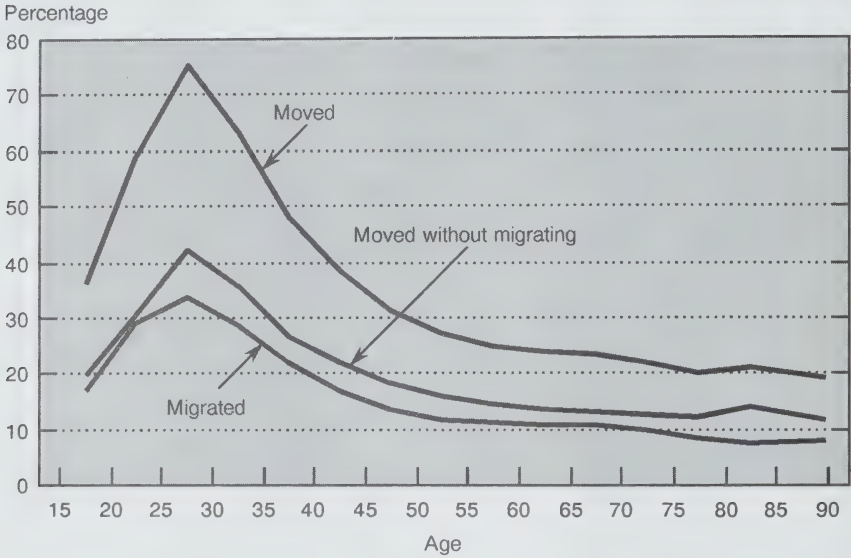
[1] Excluding institutional residents.
Source: Table A14.

At the end of these brief analyses, one must conclude that retirement migration is more a myth than a reality, as suggested by the curves in Figure 15. From the ages of 55 to 59, the proportions of moves remain virtually constant. No clear divergence is discernable, which contrasts sharply with previous ages at which mobility results from circumstances of the professional life often involving job search.

The Canadian Census offers an opportunity to evaluate interprovincial movers (Table 19). In 1986, which had no reason to be different from other recent years, the flows of elderly are not significantly different from those of the population as a whole.[12] Quebec was a heavy loser and the Prairies, especially Manitoba and Saskatchewan, lost more than they gained. Ontario and British Columbia are the big winners. In the Atlantic provinces few movements occur.

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[12] See, *Report on the Demographic Situation in Canada*, Statistics Canada, Catalogue No. 91-201E, for different years.

Table 19. Interprovincial Migration Flows, Persons Aged 65 and Over, Canada, 1986

Province of destination	Canada	Province of origin											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alb.	B.C.	Yukon	N.W.T.
Canada	34,890	490	215	1,160	900	8,755	7,455	2,855	2,595	4,905	5,175	150	235
Nfld.	395	0	0	75	0	50	220	0	5	20	25	0	0
P.E.I.	300	0	0	80	30	35	130	0	0	10	15	0	0
N.S.	1,605	105	45	0	235	250	690	20	15	140	100	5	0
N.B.	1,330	65	55	170	0	355	525	20	5	40	60	0	65
Que.	2,210	5	35	100	245	0	1,410	65	20	130	190	5	5
Ont.	10,935	240	45	530	285	6,760	0	635	260	820	1,335	10	25
Man.	1,880	5	10	0	5	175	610	0	290	215	560	0	10
Sask.	1,980	0	0	20	10	80	350	395	0	430	665	20	10
Alb.	4,965	25	5	70	60	300	955	425	795	0	2,195	20	115
B.C.	9,215	45	20	115	25	745	2,530	1,295	1,200	3,085	0	100	55
Yukon	70	0	0	0	0	0	25	0	5	0	30	0	10
N.W.T.	35	0	0	0	5	5	10	0	0	15	0	0	0
Balance	0	– 95	85	445	400	– 6,545	3,480	– 975	– 615	– 60	4,040	– 80	– 200

Source: Statistics Canada, 1986 Census of Canada, *Mobility Status and Interprovincial Migration*, Catalogue No. 93-108.

After these demographic-geographic descriptions, several questions remain, particularly concerning mobility. The observations showed that the elderly tend to concentrate in urban or semi-urban areas, like the general population. On the other hand, economic reasons dominate when it comes to age differences between Canadian provinces, and nowhere is the climate a clear positive factor for any province. The elderly are less mobile than others and there is no discernable change in behaviours at the ages that could be linked to retirement. This is a complex issue, however, and moves are not observed in detail: temporary moves, especially long winter absences, elude any observation. Only a survey on this aspect of the elderly's life could provide valuable information at a time when the traditional lifestyles that have shaped our vision about the life of the elderly are changing radically.

CHAPTER V

FAMILY LIFE, CONJUGAL LIFE AND HOUSING

The current concern about the ageing population is rooted in a common perception of old age. Those who worry about having a healthy society can only fear the increasing number of poor, sick and lonely people. But does old age really deserve such epithets? This chapter tries to provide a more detailed profile of the elderly using available data to describe some of their life conditions. Differentiating people by gender and by age will cause the archetype of "old people" to vanish and the heterogeneity of the elderly group to emerge. Conjugal life, living arrangements (in and out of family) and type of housing are also examined in this chapter.

Table 20. Distribution of Persons Aged 65 to 69, by Sex and Marital Status, Canada, 1951-1991

	Single	Married[1]	Widowed	Divorced	Total
	Males (%)				
1951	12.1	74.6	13.0	0.3	100.0
1956	11.6	76.1	12.0	0.4	100.0
1961	11.0	77.5	11.1	0.5	100.0
1966	11.3	78.1	10.0	0.6	100.0
1971	10.8	80.4	7.7	1.1	100.0
1976	9.0	82.3	7.1	1.6	100.0
1981	8.0	83.0	6.7	2.3	100.0
1986	7.0	83.5	6.5	2.9	100.0
1991	6.9	83.1	6.2	3.8	100.0
	Females (%)				
1951	9.6	56.3	34.0	0.2	100.0
1956	9.6	55.9	34.3	0.2	100.0
1961	10.1	55.3	34.2	0.4	100.0
1966	10.2	53.9	35.5	0.5	100.0
1971	10.7	55.2	33.0	1.1	100.0
1976	9.8	56.0	32.7	1.6	100.0
1981	8.5	57.6	31.5	2.4	100.0
1986	7.0	59.6	30.1	3.3	100.0
1991	6.1	61.3	27.9	4.7	100.0

[1] Includes separated persons and, since 1976, persons living in common-law unions.

Sources: Censuses of Canada, 1951-1991. For the 1991 Census, *Age, Sex and Marital Status*, Catalogue No. 93-310. For previous years, equivalent publications.

Marital Status

Marital status seems to be the deciding factor related to the elderly's lifestyle. Due to the well-known gender differences in mortality and nuptiality, men and women must be examined separately; in fact, there are some large differences between the sexes. In the 1991 Census, more than 3 elderly men out of 4 had a spouse, but less than 1 woman out of 2 had one (Figure 16 and Table A15). Conversely, while only 1 man out of 10 is a widower, almost 1 woman out of 2 is a widow (47%). The situation of women has remained unchanged since 1951,

Figure 16
Marital Status of Population Aged 65 and Over, by Sex, Canada, 1951-1991

Percentage   **Males**
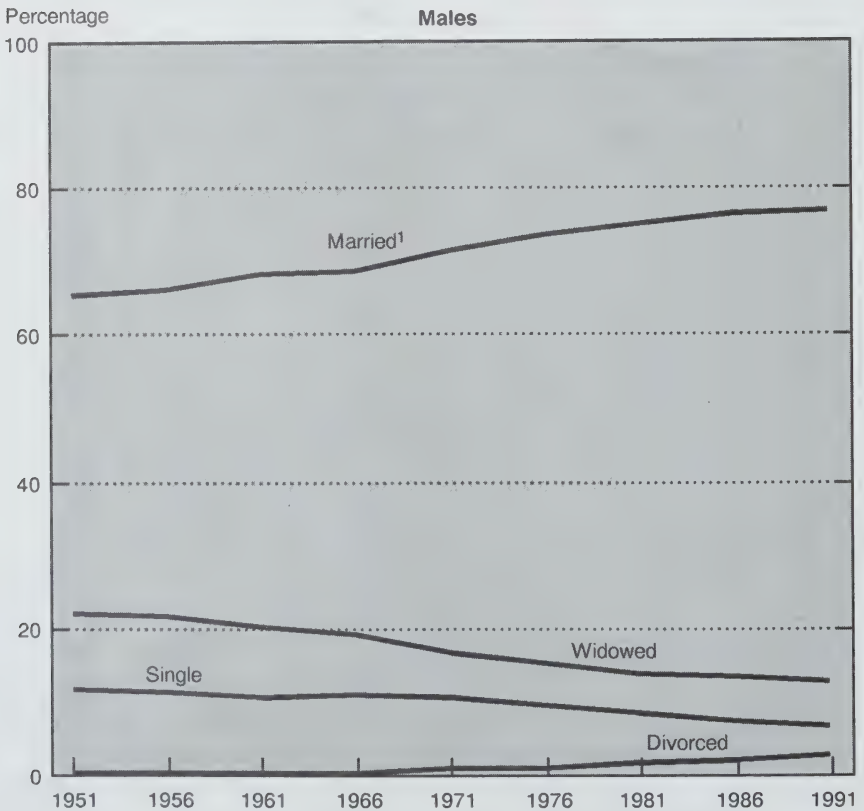
while that of men has changed: in 1951 there was a higher proportion of widowers. While mortality may have declined, women have benefitted more than men. Also, since 1951, the number of widows has increased by 235%, while widowers progressed by only 40%. Fewer and fewer singles can be found among the elderly of either sex, such that this group currently constitutes negligible proportion. The number of divorced elderly was itself negligible prior to 1971.

Figure 16
Marital Status of Population Aged 65 and Over, by Sex, Canada, 1951-1991
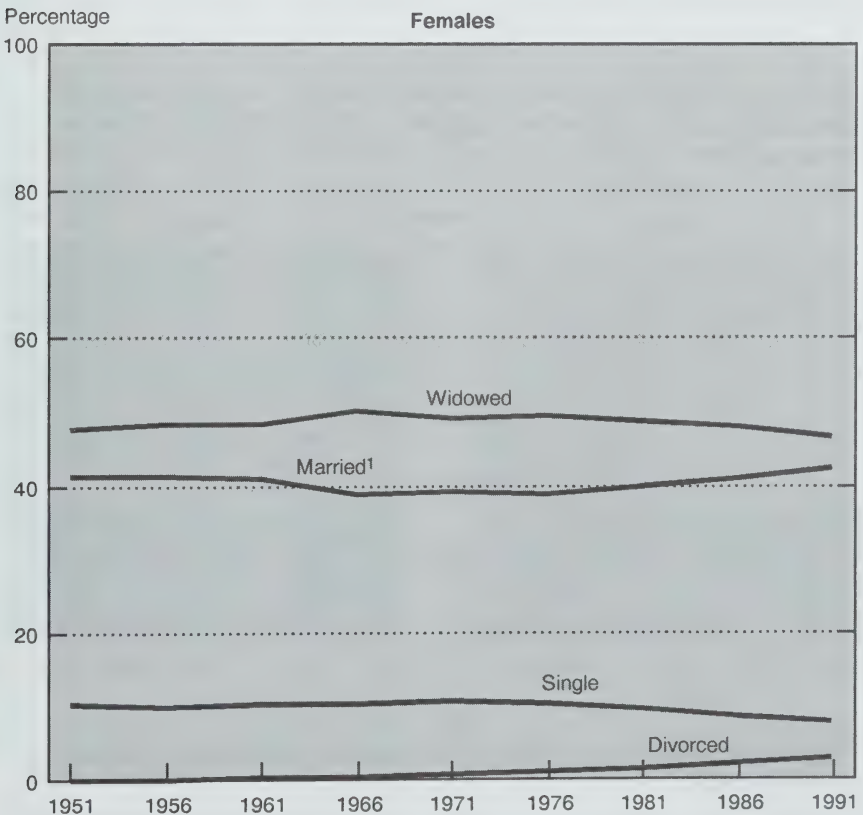
¹ Includes separated people and, since 1976, people living in common-law unions.
Source: Table A15.

The effects of change on matrimonial behaviour before the age of 60 become apparent when studying the situation of persons from the 65 to 69 age group during the last few decades (Table 20). For both sexes, there is an increase in the proportion of married and divorced persons and a decrease in that of single and widowed persons. It appears that there has been an increase in divorce which was not fully compensated by remarriage and an increased probability of survival. Still, five times more women than men from this group have lost their spouse.[13]

Marital status varies according to age. In the 65 to 69 age group, 83% of men are married, and more than half of those from the 85-and-over group are still married. But this same proportion (83%) applies to women from the 70 to 74 age group, while only 1 woman out of 10 from the 85-and-over group is married (Figure 17). The decrease in the proportion of divorced persons as age increases is a cohort phenomenon, meaning that the oldest individuals belong to marriage cohorts among which divorce was infrequent. The proportion is never higher

Figure 17
Marital Status of Population Aged 65 and Over, by Age Groups, Canada, 1991
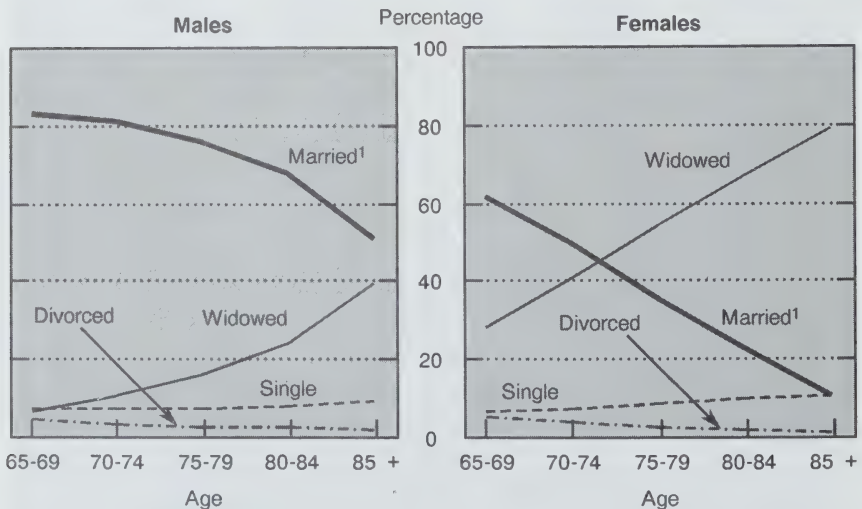
1 Includes separated people and, since 1976, people living in common-law unions.
Source: Table A16.

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[13] See, *Report on the Demographic Situation in Canada, 1991*, p. 23 to 32, Catalogue No. 91-209E.

than 4.7% of this population. For singles, the proportion is linked directly to the fluctuating intensity of nuptiality in the past, although differential mortality according to marital status may have a certain effect. A comparison between the proportion single from the different age groups in 1991 with those of younger age groups at previous censuses shows that the proportions decrease as age increases for both men and women. It may appear that this is a result of nuptiality, but caution is warranted because the Canadian population is open to migration and the quality of census data, especially at old age, is not constant from one census to another.

In all age groups and for both sexes of the observed population, the widowed and married together always account for almost 90% (obviously, if one category increases the other decreases). The two marital statuses are on par in the 70 to 74 age group among women but in the 85-and-over group among men. Therefore, for women, survival into old age means almost certainly they will experience the loss of their spouse. This is the unavoidable consequence of differential mortality, compounded by the fact that men are usually older than women at marriage.

While marital status of the elderly is essentially a result of their late nuptiality, divorce rate, and mortality before age 65, it may also evolve during old age (Table 21). In fact, few elderly marry or remarry (0.5% of unmarried persons within the group in 1990). Thus, even by cumulating the numbers over the years, they are too few to affect the proportions of the various marital statuses within

Table 21.   Number of Elderly Persons Who Married in Canada in 1990,
by Age Group, Sex and Marital Status

	Single	Widowed	Divorced	Total
	Males			
65-69 years	131	817	542	1,490
70-74 years	53	627	190	870
75 years and over	35	652	101	788
65 years and over	219	2,096	833	3,148
	Females			
65-69 years	53	707	175	935
70-74 years	40	438	84	562
75 years and over	20	286	27	333
65 years and over	113	1,431	286	1,830

Source: Vital Statistics, *Marriages* 1990. Internal document from Canadian Centre for Health Information, available upon request.

the whole group. Men however, remarry more often than women (perhaps because the numerical imbalance favours them) and singles resist marriage more than the widowed resist remarriage. Of course, many individuals may decide to enter conjugal life without legalizing their union in this part of life where advantages of a conjugal arrangement are important. Although at all ages, the proportions of men and women aged 65 plus living common law are growing, they remain low and this situation is often inherited from life prior to that period.[14]

Lifestyles

Describing lifestyles implies first and foremost using the concept of household, the basic social unit of the census. The household, which can be collective or private depending on the nature of the living quarters, represents the person or the group of persons who occupy the same living quarters. Institutional residences (hospitals, special care centres, children's group homes, orphanages, prisons, correctional institutions, and religious institutions) and accommodation establishments (hotels, tourist homes, boarding-houses, military and worker camps, Hutterite colonies, and so on) are considered collective households. Institutional residences account for more people than accommodation establishments. But by far the majority of people live in private households – that is, living quarters other than those just mentioned. In 1991, one private household out of five included at least one elderly person, and in one-third of cases more than one (Table 22). Three observations deserve special consideration:

(1) in 36% of one-person households, this person is elderly;

(2) in 19% of two-person households, both are elderly; and

(3) in 12% of two-person households, one of two is elderly.

Among private households 21.7% include at least one elderly person (Table 23, 1st column). In this subset 43% are non-family households and almost all of them are formed by an elderly person living alone.

Concentrating on individuals while retaining the household or the family framework for this study, provides even more detailed information regarding lifestyles of the elderly.

Few elderly (8.5%) live in collective households. Very often they are institutional residents. More than half live in a family, almost always within a couple. The majority of the remainder live alone, though almost 7% live with a relative who is evidently not a single child (Table 24).

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[14] Ibidem.

Table 22. Distribution of Private Households by Size of Household and Number of Elderly Persons, Canada, 1991

Number of persons aged 65 and over	Size of household			
	1	2	3 or more	Total
0	64.4	69.6	91.3	78.3
1	35.6	11.8	5.8	14.5
2	--	18.6	2.6	7.0
3 or more	--	--	0.3	0.1
Total	100.0	100.0	100.0	100.0
Proportion of the total of households	22.9	31.4	45.7	100.0

Source: Statistics Canada, 1991 Census, unpublished data.

Table 23. Distribution of Private Households Having None or at Least One Member Aged 65 and Over by Type of Household, Canada, 1991

	Proportion of all private households	Type of household				
		Family households		Non-family households		
		Single-family	Two or more families	Single-person	Two or more persons	Total
No elderly person	78.3	75.5	0.9	18.8	4.8	100.0
At least one elderly person	21.7	55.5	2.1	37.7	5.1	100.0
Total	100.0	71.1	1.2	22.9	4.9	100.0

Source: Statistics Canada, 1991 Census, unpublished data.

Table 24 shows differences by sex. Women live alone, in collective households, or outside a family more often than do men, while men are involved in a couple much more frequently. This situation results from observations made earlier about differential nuptiality and mortality between sexes where age is an important factor in the variations. It should be remembered, for instance, that the

**Table 24.   Percentage Distribution of Persons Aged 65 Years and Over by
Sex and Living Arrangements, Canada, 1991**

	Males	Females	Both sexes
In a collective household	6.1	10.3	8.5
In a private household:			
In a family:			
As a couple	71.3	38.7	52.4
Not as a couple	1.8	5.1	3.7
Not in a family:			
Alone	14.3	34.2	25.8
With a relative	3.8	9.7	7.2
With an unrelated person	2.7	2.0	2.3
Total	100.0	100.0	100.0

Sources: Statistics Canada, 1991 Census of Canada, *Dwellings and Households*, Catalogue
No. 93-311 and *Families: Number, Type and Structure*, Catalogue No. 93-312.

mean age of women from the 65-and-over age group is higher than that of men.
By itself the age of individuals explains the differences in marital status within
age groups (Table 25). Thus, the proportion of people living in a family naturally
decreases with growing age, while the proportion of those living in collective
households, mostly past the age of 75, accounts for more than one-quarter of
men and more than three-fifths of women. Consequently, the proportion of
people living alone increases initially, then levels off and finally decreases at
very old ages.

These figures suggest that the survivor of an aged couple lives alone as long
as possible after the spouse's death before moving into an institution. Since men
loose their spouse less often and later in life, the life profile of men and women
is different. Around age 75, more women live alone than in a family, a
phenomenon not encountered at any age among men. Men are involved in a
couple 3 times out of 5, even past the age of 85. More than 1 women out of 12
aged 70 and over shares a dwelling with a male or a female relative, which occurs
approximately 15 years earlier than for men.

Table 25.   Percentage Distribution of Elderly Persons by Living Arrangements, Sex and Age Group, Canada, 1991

	Age group				
	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over
	Males				
In a collective household	2.6	3.6	6.2	12.0	27.0
In a private household	97.5	96.4	93.8	88.0	73.0
In a family	80.2	77.4	71.1	60.6	41.5
Not in a family	17.3	19.0	22.7	27.5	31.5
Alone	11.9	13.2	16.0	18.9	19.9
With a relative	2.6	3.2	4.2	6.0	8.7
With an unrelated person	2.8	2.6	2.5	2.6	2.9
Total	100.0	100.0	100.0	100.0	100.0
	Females				
In a collective household	2.5	4.3	8.6	18.2	41.0
In a private household	97.5	95.7	91.4	81.8	59.0
In a family	63.1	50.4	36.0	22.6	11.2
Not in a family	34.4	45.3	55.5	59.3	47.8
Alone	25.7	34.7	42.3	43.9	31.4
With a relative	6.7	8.6	11.0	13.3	14.4
With an unrelated person	2.0	2.0	2.2	2.1	2.0
Total	100.0	100.0	100.0	100.0	100.0

Source: Tabulations from the "1991 Census public use microdata file on households and housing".

This reality is the same whether collective or private households are considered. These living arrangements are strongly linked to marital status. Among both men and women, more married persons than singles live in private households, and consequently, more single than married persons live in collective households (Table 26). Also, more women than men are found in collective households because women are widowed more often than men.

Table 26. Proportion of the Population Aged 65 and Over Living in a Collective
or Private Household, by Sex and Marital Status,
Canada, 1991

	In a collective household	In a private household	Total
	Males		
Single	22.6	77.4	100.0
Married[1]	3.0	97.0	100.0
Widowed	15.7	84.3	100.0
Divorced	8.2	91.8	100.0
	Females		
Single	28.8	71.2	100.0
Married[1]	2.2	97.8	100.0
Widowed	14.2	85.8	100.0
Divorced	17.2	82.8	100.0

[1] Includes separated persons and persons living in common-law unions.

Source: Statistics Canada, 1991 Census, *Families: Number, Type and Structure*, Catalogue No. 93-312.

To live with a spouse or not appears to be the most important feature in determining the lifestyle of the elderly. Survey data in Table 27 give more information. Four times out of five, an elderly couple live alone, and this proportion increases with age reaching 86% beyond age 75 (Table 27). When at least one other person is part of the household, almost invariably it is a child or grandchild. Two times out of three, spouseless elderly live alone regardless of age. It can be noted that blood relatives and friends begin to be mentioned as household members from age 65. These observations lead one to venture a scenario where in future the elderly, having had fewer children, will fulfil their companionship needs in the same manner.[15] Children taking charge of an elderly parent does not appear to be the favoured model.

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[15] N. Marcil-Gratton and J. Légaré, in collaboration with P.-M. Huot, "Les réseaux de soutien pour les personnes âgées de demain : ce qu'on peut attendre du réseau familial", in the research report prepared for l'*Étude de l'évolution démographique et de son incidence sur la politique économique et sociale*, Health and Welfare Canada, October, 1988.

Table 27. Composition of Private Households of Elderly Persons According
to Whether the Occupants live with a Spouse or not, by Age Group,
Canada, 1985

	Age group		
	65-74 years	75 years and over	65 years and over
	Persons not living with a spouse		
Living alone	66.2	66.1	66.2
Living with at least a child or a grandchild	14.9	14.0	14.5
Living with at least a child and/or a relative[1]	4.0	5.1	4.5
Living with at least a relative[1]	14.9	14.7	14.8
Total	100.0	100.0	100.0
Number	328	293	621
	Persons living with a spouse		
Only living with a spouse	78.2	86.4	80.5
Living with at least a child or a grandchild	16.7	9.9	14.8
Living with at least a child and/or a relative[1]	2.1	1.4	1.9
Living with at least a relative[1]	3.0	2.3	2.8
Total	100.0	100.0	100.0
Number	568	219	787

[1] Brothers, sisters, other relatives or friends.

Source: Statistics Canada, *General Social Survey*, 1985.

Dwellings Characteristics of the Elderly

Vast amounts of information on dwellings and their attributes and occupants are gathered by the census. The two aspects chosen for consideration in this section are ownership and size.

Up to the present, most Canadians, whether men or women, have made home ownership a prime objective. However, home acquisition has represented such a major investment that, *a priori*, the proportion of home owners in the population only rises with the increase in income that comes with age.

Table 28.   Proportion of Persons Living in Private Households Which have an
Elderly Homeowner or Household Head, by Age Group,
Canada, 1991

	Age group					
	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over	65 years and over
Proportion of age groups (%)	71.3	66.0	58.8	50.3	41.9	63.3

Source: 1991 Census, special tabulations.

Data from the 1991 Census generally confirm this view. A special table from
the census, which is not reproduced here, shows that when both sexes are
considered, 61.5% of persons between the ages of 18 and 39 live in a dwelling
which is owned by one of the members of the household. Among the group aged
40 to 44, the percentage climbs to 78.6%, and among those aged 65 years and
over, it stands at 70.7%. The lower percentage for the last age group is
noteworthy and requires further comment, because more than in other groups,
it is possible to be a member of a household owned by one of the members
without oneself or one's spouse being the owner.

If dwelling ownership is to be taken as an indicator of a certain degree of
affluence, it is not enough to be a member of a household owned by one of the
members. Either oneself or one's spouse must be the owner. It is by discovering
who the owners or their spouses are, that is to say, who pays the mortgage if
there is one, who pays the taxes, who pays for any repairs, etc., that a true picture
can be gained. From Table 28 it is evident that 63.3% of the elderly own their
homes. Even though this is a considerable fraction of the elderly group, it is
also an average; the distribution by age group climbs to an inflection point and
then declines as age increases. Home ownership drops from 71.3% for the 65-69
age group, to no more than 41.9% for the 85 and over age group. There are
at least two concurrent explanations for this drop in proportions: it is a fact that
as age increases the responsibility of home ownership becomes burdensome to
the point where some owners may opt for other living arrangements. In addition,
members of the oldest cohorts also have had less of a chance of becoming home
owners than their younger counterparts. Once again, the combined effects of
age and cohorts characteristics are present here. Only a retrospective study would
clarify the part played by these components.

**Table 29. Percentage Distribution of Persons Living in Private Households,
by the Number of Rooms in Dwelling and Broad Age Group,
Canada, 1991**

Number of rooms	Age group		
	18-39 years	40-64 years	65 years and over
	All types of occupancy		
1-2	0.1	0.2	0.2
3-4	5.0	5.3	11.1
5-6	32.5	33.8	46.2
7+	62.3	60.8	42.4
Total	100.0	100.0	100.0
	Owners		
1-2	1.3	1.0	2.4
3-4	19.2	13.6	26.2
5-6	34.6	34.6	40.1
7+	44.8	50.8	31.4
Total	100.0	100.0	100.0

Source: Statistics Canada, 1991 Census, unpublished data.

In considering the question of dwellings, it is also important to pay attention to size of the dwelling. From the data in Table 29 it is immediately evident that, without making the distinction between owning or renting, the elderly live in smaller dwellings than the rest of the adult population, and this statement held true even if only those living in a dwelling owned by one of the household members are considered.

When considering the elderly with respect to dwelling size, it is possible to disaggregate in the same way as was done previously, where the extent of home ownership within the group was being determined. In order to do this, the same category of real home owners/household heads was selected. Table 30 shows that the size of the dwelling owned decreases in direct proportion with age.

Analysis of marital status and the housing situation of the elderly gives the impression of the presence of a combined will and capacity to remain autonomous. This holds true both for couples and singles.

Table 30. Percentage Distribution of Homeowners/Household Heads
or their Spouse by Age Group and Size of Dwelling,
Canada, 1991

Number of rooms	Age group				
	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over
> 3	0.2	0.2	0.3	0.4	0.4
3-4	9.5	11.5	14.3	16.5	17.6
5-6	46.2	48.8	50.1	51.1	49.2
7 +	44.1	39.5	35.3	32.0	32.9
Total	100.0	100.0	100.0	100.0	100.0

Source: 1991 Census, special tabulations.

From all available evidence, Canada is far from being representative of the traditional modes of living where old age is concerned. The progress that has occurred in this country has made levels of material comfort possible which generally are not available in many countries. Nevertheless, one must guard against the possible illusion that these data can create, respecting the economic and financial state of the elderly. It is on this point that the next chapter focuses.

CHAPTER VI

ECONOMIC AND SOCIAL CONDITIONS OF THE ELDERLY

The interest generated by the ageing process is rooted in economic considerations. The elderly population is large and growing, and the majority of its members are retired. Will society be able to ensure each of them a decent standard of living indefinitely? The answer to this question is to be found in the discourse of the society and is a matter of concern. A thorough investigation will be necessary, but would extend beyond the realm of demographers and of this study. This chapter, therefore, will present income information obtained from censuses and surveys highlighting the socio-economic situation of the elderly, focusing mainly on their financial situation (retirement income items, labour force participation and income from other sources). The chapter will conclude with some encouraging thoughts on progress among the elderly in academic attainment, which portends a less baleful future than that prophesied by modern-day Cassandras.

Components of Income of Retirees[16]

There are three sources of retirement income in Canada, as follows:

(1) federal income security programs complemented in at least six cases by provincial supplements;

(2) Canada Pension Plan or Quebec Pension Plan;

(3) private pension plans and retirement savings plans (promoted through income tax legislation incentives).

Federal Programs

The federal programs aim at providing a guaranteed income to almost every Canadian man and woman aged 65 and over to protect them from destitution.[17]

Accordingly, the federal Old Age Security (OAS) program pays monthly indexed benefits from the public purse, provided mainly from income tax revenues. These taxable benefits are payed to all men and women who meet certain Canadian residency requirements.

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[16] Information extracted from *Pensions Guide*, Report from the National Council of Social Welfare on Retirement Income, April, 1984.

[17] Before 1966, eligible age was 70; it was then lowered annually by one-year increments to the current level reached in 1970. GIS was introduced in 1967 and is provided to qualified beneficiaries. By 1970, it became payable at age 65. The GIS is not indexed *per se*, but has been increased periodically.

The Guaranteed Income Supplement (GIS) program provides non-taxable supplements to OAS benefits for people whose income is limited to OAS payments, or who demonstrate very limited income from other sources. Those limited to OAS income receive full benefits. Those with some income from other sources receive partial GIS benefits.

As well, the government introduced the Spouse's Allowance (SPA) for couples in 1975. This is an income-tested benefit payable to 60 to 64 year old spouses of OAS beneficiaries. It provides a couple with one younger spouse with the same income guarantees as the GIS provides a pensioner couple. The SPA is non-taxable and reduced when the couple has other sources of income. In 1984, the SPA was extended to low income widows and widowers aged 60-64.

Finally, six provincial governments (Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia – as well as the Yukon and Northwest Territories) provide income-tested supplements which vary considerably from one province to the other. As well, there are various tax abatements.

Canada Pension Plan

The Canada Pension Plan is in force across the country except in Quebec, where an equivalent known as the Quebec Pension Plan exists, and represents the second source of income. Both plans were established in 1966 to ensure that all Canadian workers were saving in anticipation of their retirement. All paid workers between age 18 and 65 must contribute. Those who work past the age of 65 may delay the start of their pension to age 70, and their pension will be increased accordingly. The contribution amounts to a fixed portion of contributory earnings, and employers must contribute an equivalent amount. Retirement pension equals one-quarter of a person's average contributory earnings during the working life, adjusted to reflect current values. Benefits are taxable and tax credits are provided for contribution. A surviving spouse aged 65 and older receives 60% of the contributor's pension.

Private Retirement Plans

These two sources of retirement income do not represent large sums, which explains the advantages of the third source of income – private retirement plans. The tax-deferral qualities of such plans aim at encouraging Canadians to subscribe. The deferral extends to such time as the plan is "cashed in" – usually retirement. Since total taxable income is usually lower after retirement, the plan holder will in all likelihood pay a lower tax rate on the benefits from the plan than they would have in the contribution year.

Theoretically, the pension system is well conceived. For the majority of retirees who earned middle to high incomes during their working life, the combined sources should protect them against poverty. As to those who earned

low incomes, the government programs should in fact shield them from destitution. The following analysis should help in evaluating the disparity between theory and practice.

Labour Force Participation

Information about labour force participation was obtained from Canadian censuses. Before proceeding to an analysis of the data, two comments must be made:

(1) the definition of labour force activity is slightly different from one census to the next, but the most significant change occurred in 1981. Since 1981, institutional residents have not been asked the labour force questions and are, therefore, excluded from this population. As a result, adjustments are required to reconstruct the time series over a longer period;

(2) the labour force characteristics of persons 15 years old and over refer to the job during the week preceding the census or, failing this, the longest-held job since January 1 of the previous year. Thus, as instructed, some persons not currently in the labour force will have declared employment because they had worked since January 1 of the previous year. This may introduce biases in the calculations, especially in cases related to age groups approaching retirement. These biases, however, do not invalidate the analysis, since under-65 age groups were also analyzed to assess more clearly the situation of the elderly at the turning point between two life periods.

The long-term trend in the industrialized countries shows a decrease in time spent in the labour force over a person's lifetime. Since 1951, the male labour force participation rate in all age groups has been declining. The decline clearly starts at age 55 (Figure 18) and accelerates among the 60-64 age group; from the 60-64 age group to the 65-69 group, the rate drops by two-thirds. These are indeed the retirement ages. It will be interesting to see how the lifting of mandatory retirement at 65 will affect labour force participation in the coming years.

The situation is different for women. While few were in the labour market in 1951, their number, and consequently their participation rate, has been rising since, at least up to the age of 60 (Figure 18). Their strong tendency to enter the labour market, with a significant increase in the participation rate between the ages of 50 and 59, went against the existing trend among men, whose participation over time declines as age increases. Also, as in many other instances, age and cohort factors complicate the analysis.

For both males and females over the age of 60, the participation rate decreases as age increases. This phenomenon is probably attributable in some small measure to the near disappearance of farming activties, but more significantly

Figure 18

**Labour Force Activity Rate for People Aged 50-69 by Age Groups
and Sex, Canada, 1951-1986**
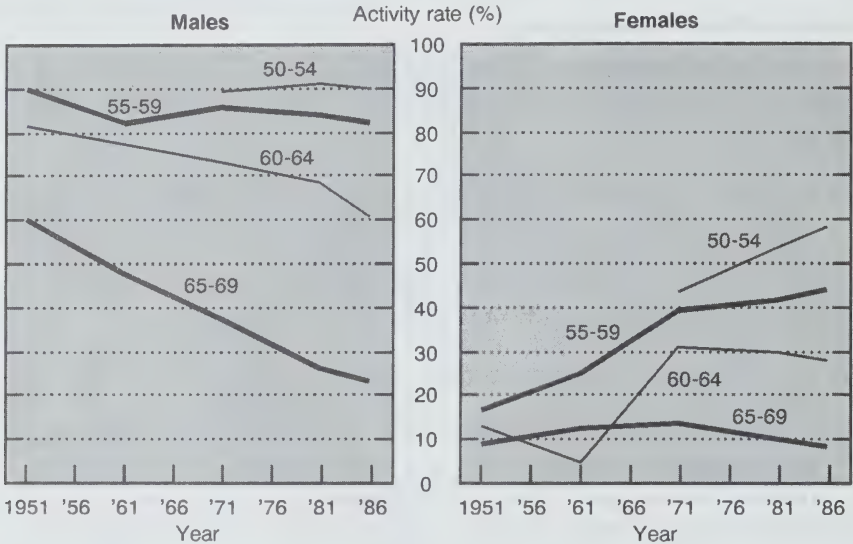
Source: Table A17.

to the option of early retirement provided by better economic conditions. Yet in 1986, several thousand individuals over the age of 85 stated that they were in the labour force. It is difficult, however, to assess exactly what declared employment at that age encompasses.

The elderly work part time more often than others, and women do so more often than men (Table 31). In 1986, one-third of men and one-half of women aged 65 and over stated that they were in the labour force, but as part-time workers. From one age group to the next, the phenomenon evolves differently among men and women. Among men, there is a steep increase in part-time participation from the 60-64 age group to the 65-69 group. The increase is less sharp among women because of the high proportion who already worked part time. It is, therefore, obvious that the labour market profile differs radically according to gender.

**Table 31. Percentage of the Labour Force by Age Group and Sex,
Aged 50 and Over, Working Part Time[1], Canada, 1986[2]**

	Males	Females
50-54 years	6.1	31.6
55-59 years	7.4	33.3
60-64 years	11.5	34.5
65-69 years	27.2	48.9
70-74 years	44.3	58.2
75 years and over	49.2	52.6
65 years and over	34.4	51.3

[1] According to the declaration by the respondent indicating his/her longest period of employment during the year prior to the census.
[2] Excludes institutional residents.

Source: Compilations based on the "1986 Census public use microdata file on household and housing".

The majority of older men who are still working are manual workers, whereas women hold non-manual jobs (Table 32). At age 70, more than one-third of working men are in primary occupations, while the few working women state that they are employed in the category of professionals or technicians.

An analysis by industry leads to the same conclusions (Table 33). Among men, the relative importance of agriculture, fishing and hunting is almost 5.5 times greater in the 75 and over age group than in the 50-54 age group. But this difference should only be interpreted in light of how the labour market has evolved during the last 30 years. People aged 75 and over belong to cohorts whose members generally acquired very different trade skills from those acquired by younger cohorts. Differences in the type of work are therefore attributable more to labour market changes than to age. Notwithstanding this observation, men at advanced ages are distributed almost evenly among three industry groups: agriculture; trade and restoration, and services areas. Women, on the other hand, are present in only the latter two groups.

Thus labour force participation greatly declines from the age of 50, and drops sharply during the transition from the 60-64 age group to the 65-69 group. A large number of those remaining in the labour market are part timers. Also, while the participation rate declines, work becomes increasingly concentrated in the primary activities, trade and services sectors. The explanation for such trends can often be found in the type of work and the characteristics of these industries.

Table 32. Percentage Distribution of the Labour Force Aged 50 Years and Over by Major Occupational Group, Age Group and Sex, Canada, 1986

Major Occupational Group	Age group								
	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over	65 years and over
Males									
1. Occupations in natural sciences, social sciences, engineering, medecine and health, teaching, and artistic and literary professions	10.8	9.4	10.1	10.5	11.7	8.8	9.6	10.9	10.6
2. Managerial, administrative, and related	17.1	15.8	14.1	14.9	13.1	14.1	13.3	16.4	14.3
3. Clerical and related	5.1	5.8	6.5	7.2	6.8	5.7	6.4	1.8	6.9
4. Sales occupations	8.3	8.5	8.2	11.7	10.2	11.8	9.6	12.7	11.3
5. Service occupations	8.7	9.1	10.8	10.7	10.6	10.7	10.6	9.1	10.7
6. Occupations in primary and processing industries	11.9	13.4	14.7	20.1	28.9	32.2	36.2	27.3	24.3
7. Machining, fabricating, assembling, and repairing, construction trades, transport equipment operating occupations	31.6	30.8	28.3	18.4	12.0	11.4	11.2	14.5	15.7
8. Occupations in religion, material handling, and other occupations not elsewhere classified	6.5	7.3	7.3	6.5	6.8	5.3	3.2	7.3	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employed labour force (in thousands)	559.2	491.6	356.0	145.4	61.5	26.3	9.4	2.8	245.2
Females									
1. Occupations in natural sciences, social sciences, engineering, medecine and health, teaching, and artistic and literary professions	18.4	16.5	15.7	14.3	16.0	21.4	22.5	14.3	15.7
2. Managerial, administrative, and related	8.5	7.9	7.0	6.6	5.6	7.6	7.1	14.3	6.7
3. Clerical and related	30.4	29.9	31.2	31.1	25.5	27.1	20.5	18.4	28.8
4. Sales occupations	9.9	11.1	11.6	15.1	16.4	11.0	12.2	6.1	14.7
5. Service occupations	17.0	19.0	19.0	17.9	20.6	18.6	17.3	20.4	18.6
6. Occupations in primary and processing industries	6.2	6.1	7.5	8.6	8.0	7.1	12.2	8.2	8.5
7. Machining, fabricating, assembling, and repairing, construction trades, transport equipment operating occupations	7.0	7.1	5.2	4.2	3.4	2.9	7.1	12.2	4.2
8. Occupations in religion, material handling, and other occupations not elsewhere classified	2.7	2.5	2.8	2.2	4.4	4.3	1.0	6.1	2.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employed labour force (in thousands)	384.9	302.9	205.1	70.9	25.0	10.5	4.9	2.5	113.7

[1] The categories consist of the following major classification groups: Category 1, codes 21,23,27,31, and 33; Category 2, code 11; Category 3, Code 41; Category 4, code 51 Category 5, code 61; Category 6, codes 71,73,75,77,81, and 82; Category 7, codes 83,85,87, and 91; Category 8, codes 25,93,95, and 99.

Source: Compilations based on the "1986 Census public use microdata file on households and housing" and on the *Standard Occupational Classification, 1880*, Catalogue No. 12-565.

Table 33. Percentage Distribution of the Population Aged 50 and Over by Major Economic Activity Group, by Sex and Age Group, Canada, 1986

Major Economic Activity Group	Age group						
	50-54	55-59	60-64	65-69	70-74	75 and over	65 and over
Males							
1. Agricultural industries	5.3	6.2	9.0	17.0	26.4	31.8	21.7
2. Manufacturing industries	21.9	22.7	21.2	13.3	9.8	7.9	11.6
3. Forestry, mining, fishing and trapping	4.2	4.5	3.2	2.2	2.2	1.7	2.1
4. Construction	9.9	9.1	8.1	6.6	4.5	4.3	5.7
5. Retail and wholesale trade, accommodation, food and beverage service	16.4	16.4	15.6	17.3	15.7	18.0	17.0
6. Transportation, storage, communication and other utilities	13.0	12.3	11.4	7.2	4.6	4.2	6.1
7. Finance, insurance, real estate, etc.	8.0	8.1	8.4	14.9	15.3	13.2	14.7
8. Governments, education, health and social services, etc.	21.2	20.8	23.1	21.5	21.4	19.0	21.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employed labour force (in thousands)	559.2	491.6	356.0	145.4	61.5	38.5	245.2
Females							
1. Agricultural industries	4.3	4.8	5.5	7.5	7.0	8.1	7.5
2. Manufacturing industries	12.5	12.8	10.2	9.0	4.2	7.3	7.7
3. Forestry, mining, fishing and trapping	0.8	0.6	0.5	0.4	0.6	0.8	0.5
4. Construction	1.8	1.5	1.6	1.2	1.8	0.8	1.3
5. Retail and wholesale trade, accommodation, food and beverage service	25.9	25.9	27.3	27.5	25.9	24.1	26.6
6. Transportation, storage, communication and other utilities	4.1	3.8	3.4	2.3	1.4	1.7	2.0
7. Finance, insurance, real estate, etc.	9.7	9.4	9.5	11.0	9.4	8.7	10.3
8. Governments, education, health and social services, etc.	40.8	41.1	42.1	41.2	49.7	48.5	44.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employed labour force (in thousands)	384.9	302.9	205.1	70.9	25.0	17.9	113.7

[1] The economic activity groups consist of the following industry divisions: Group 1, division A; Group 2, division E; Group 3, divisions C, B and D; Group 4, division F; Group 5, divisions Q, I, and J; Group 6, divisions K, L and M; Group 8, Divisions N, O, P, and R.

Source: Tabulations from the "1986 Census public use microdata file on households and housing" based on the *Standard Industrial Classification, 1980,* Catalogue No. 12-501.

In agriculture for instance, there is no mandatory age to stop working. Certain jobs or occupations requiring only low amounts of physical energy may allow those holding them to continue longer. Some occupations are more adaptable to part-time work. In addition, generational factors may be at play (for instance in the agricultural sector) in maintaining participation in spite of age.

Regardless of these considerations, observation shows that the retirement age has not increased and labour force participation at old age has decreased. Among the major causes accounting for this situation, one can cite the over-abundance of workers in some sectors and the difficulty of labour force retraining (which bring about opportunities for early retirement), or enticing pension and retirement income, as well as people being better prepared to spend their time in leisure.

Personal and Family Income

While personal income provides an indication of the level of economic welfare, this indicator is incomplete. The welfare of a person also depends on the welfare of the family unit or the household it represents or to which it belongs. For instance, a poor person living in a relatively wealthy family may benefit from this wealth. Lifestyle, therefore, should be taken into account in assessing the socio-economic heterogeneity of the aged population. Census data on income and economic welfare are also deficient in that, here again, institutional residents (who account for 8% of the population aged 60 plus) are excluded from this universe. The older the age group, the larger the excluded segment of population.

Table 34.   Average Total Income in 1985 of Persons Aged 50 and Over by Age Group and Sex (in dollars)

	Males	Females
50-54 years	29,882	11,095
55-59 years	27,702	9,732
60-64 years	24,159	9,077
65-69 years	19,965	10,465
70-74 years	16,865	11,030
75-79 years	14,830	10,928
80-84 years	12,815	11,012
85 years and over	12,295	10,683
65 years and over	17,114	10,789

[1] Excludes institutional residents.

Source: Tabulations from the "1986 Census public use microdata file on households and housing".

Table 34 shows personal income in 1985 by sex and age group. The reported income in this year results, of course, from a combination of past and present activity. Overall, women's income remains mostly constant at all ages. Below age 65 however, the average income most likely conceals significant disparities between women in the labour market and other women. Beyond this age, the constancy is attributable to the universality of public pension plans and to the fact that few women have contributed to private plans during their adult life.

Men's income evolves very differently: because the number of men with retirement savings has increased, there is a smaller decline in average income than would be expected from one age group to another over the age of 65. The gender differences are therefore a result of divergent cohort histories.

Analysis of income sources confirms these conclusions (Figure 19 and Table A18 in appendix). In the case of women, the loss of employment income is more than compensated for by the money received from governmental income security annuities so that income increases from the 60-64 age group to the 65-69 group. Among the 60-64 age group, employment income represents about 50% of total income, while public annuities and pension sources account for only 18%. The profile of the 65-69 age group is reversed: annuity income represents 43% of total income and employment income only 12%. Investment income, often averaging less than $3,000 after age 65, accounts for 25% to 28% of total income.

Men's wages at age 65 drop drastically and abruptly. On average, wages decline from $16,000 to $5,500 between the 60-64 age group and the 65-69 group (Table A18). This fall in employment income is not compensated for by government annuities and pensions. Though this drop is the most significant, it is only one of three. The first drop occurs during the transition from the 55-59 age group to the 60-64 group (the pre-retirement factor) while the last occurs during the 65-69 to 70-74 age transition. Men's investment income remains around $3,000 to $4,000 after the age of 65. This is supplemented, however, by private pension income in the order of $4,000 among the 65-69 age group. Male income from previous employment is three times higher than that received by women.

These averages conceal significant differences between elderly people resulting from both past and current income. The latter can be explained by labour force status and lifestyle.

Figure 20 shows the distribution of income by sex and by income bracket. The distributions of men and women differ noticeably. Among men between the ages of 50 and 64, the distribution is almost uniform, while there is a high concentration in income brackets below $15,000 among all age groups over 65. By far the majority of women are concentrated in the income brackets below $10,000, regardless of the age group over age 50. There is, however, a concentration in the bracket below $2,500 among the 50 to 64 age group, and another in the $5,000 to $10,000 income bracket among women aged 65 and over.

Figure 19
Sources of Income for Population Aged 50 and Over, by Sex, Canada, 1985[1]

% of total income   **Males**
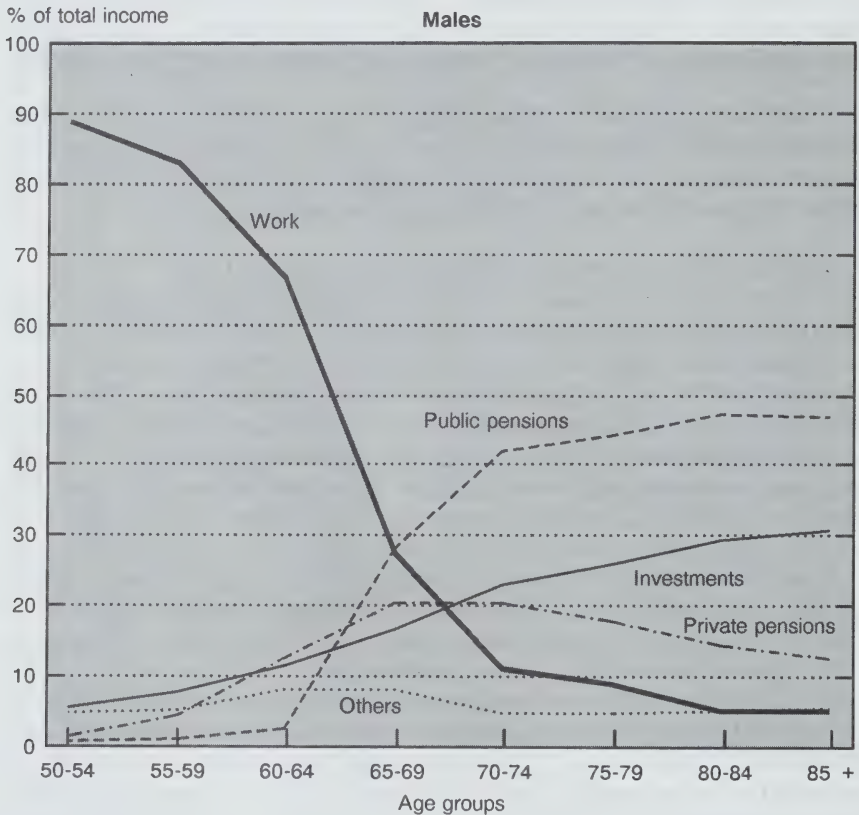
Table 35 shows the differences between mean and median income. In all cases, mean income is higher than median income. This situation indicates that there are more people earning below the mean value than above it, and that the mean is inflated by a few very high incomes. This is most obvious over the age of 65 and among women.

Figure 19
Sources of Income for Population Aged 50 and Over, by Sex, Canada, 1985[1]

% of total income

Females
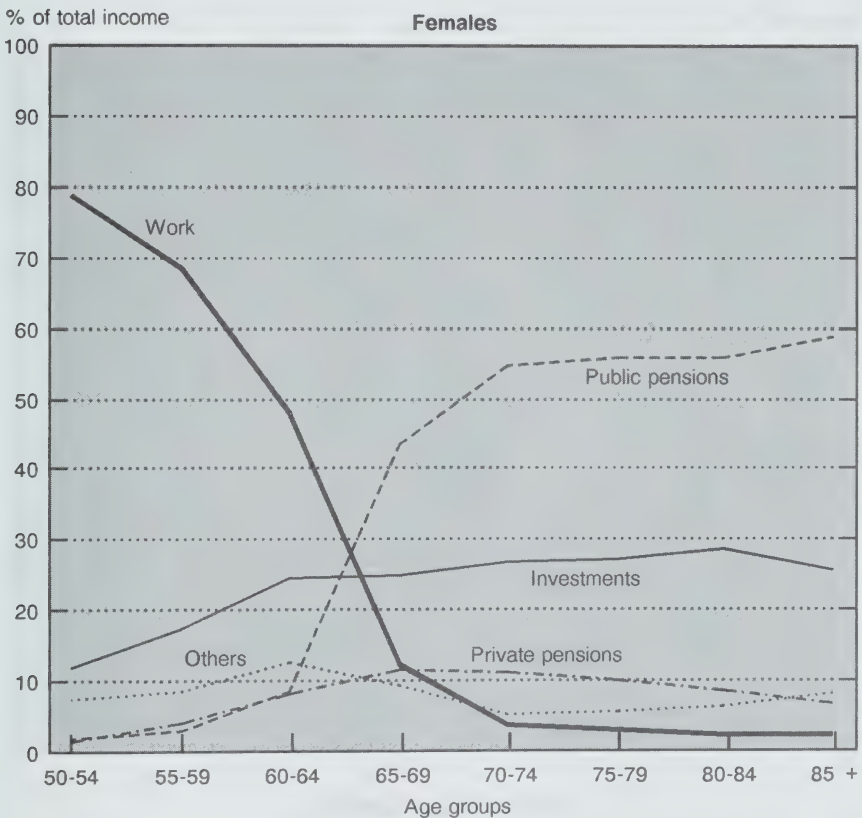
¹ *Excluding institutional residents.*
Source: Table A18.

Economic conditions of individuals vary according to their marital status and whether they live alone or in a family (Table 36). Concerning marital status, the most striking observations concern married persons because of the considerable differences between men and women. The historical role distribution (man as breadwinner, women as homemaker) explains that over the age of 65, men's income reaches almost $18,000 compared to less than $9,000 in the case of women. By contrast, as a logical consequence, there is almost no gender difference in the case of singles.

Figure 20

Distribution of Population Aged 50 and Over by Income, Age Groups, and Sex, Canada, 1985[1]
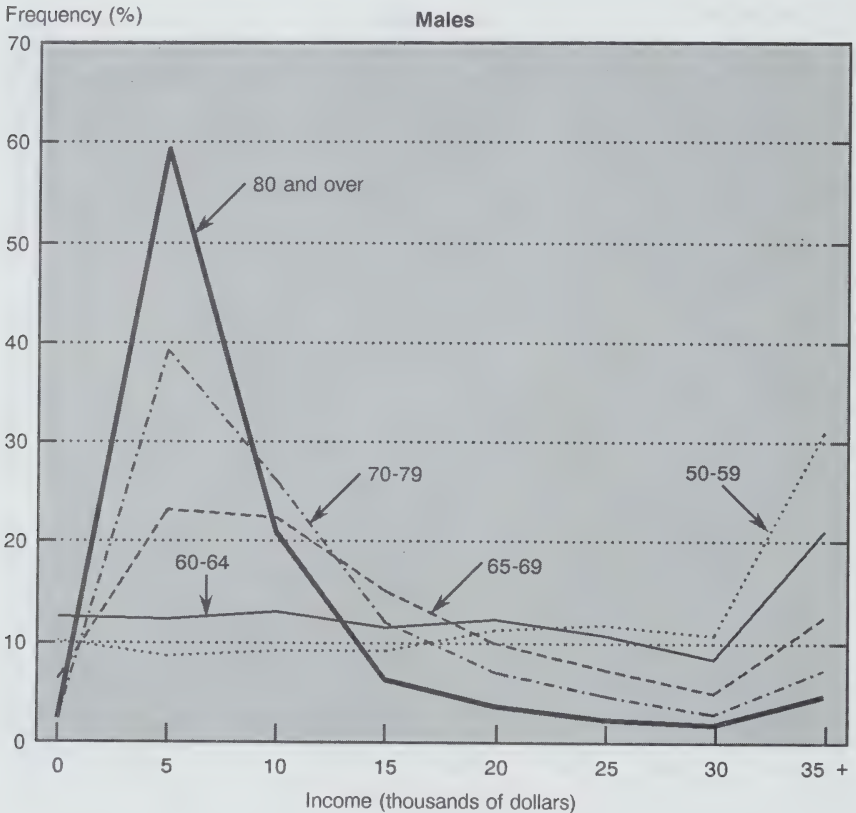
Finally, the fact that some people work and some don't may account for the differential income distribution among the elderly (Table 37). Regardless of age or sex, working is advantageous. But considering that annuities should in principle provide the elderly with sufficient income, one wonders what compels some to stay in the labour market beyond the age of 60 or 65. Is it inertia, necessity, or just the desire for a bit of luxury?

Figure 20
Distribution of Population Aged 50 and Over by Income, Age Groups, and Sex, Canada, 1985[1]

Frequency (%)   **Females**

80 and over

70-79

65-69

60-64

50-59

Income (thousands of dollars)
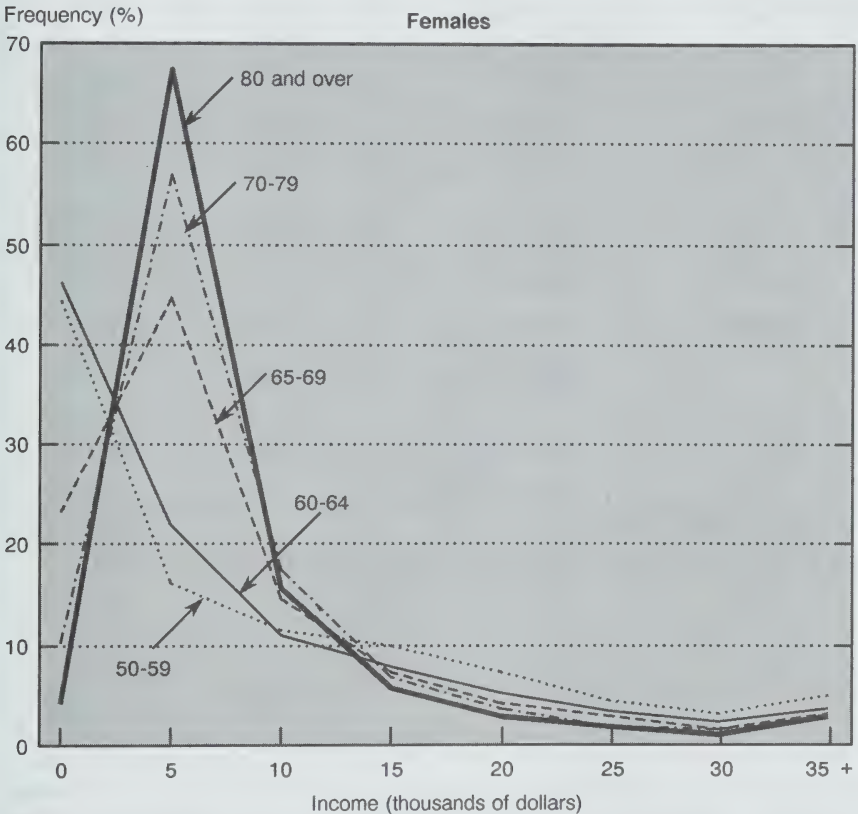
[1] *Excluding institutional residents.*
Source: Table A19.

Among the 65-69 age group, the average income of men for the year was $20,000 (Table 34). The earnings displayed in Table 34 for those who worked full time that year reached $34,000, while that of people who were mostly part-timers amounted to $26,800.

Table 35. Average and Median Income in 1985 of Persons Aged 50 and Over,
by Age Group and Sex, Canada[1]

Age group	Income	Males	Females
50-54 years	Average (A)	31,027	14,535
	Median (B)	27,599	11,720
	Ratio of A to B	1.12	1.24
55-59 years	Average (A)	29,387	13,621
	Median (B)	25,303	10,143
	Ratio of A to B	1.16	1.34
60-64 years	Average (A)	25,322	11,423
	Median (B)	20,686	7,622
	Ratio of A to B	1.22	1.50
65-69 years	Average (A)	20,485	10,917
	Median (B)	14,739	8,118
	Ratio of A to B	1.39	1.34
70 years and over	Average (A)	15,658	11,147
	Median (B)	10,580	8,546
	Ratio of A to B	1.48	1.30

[1] Excludes institutional residents.

Source: Tabulations from the "1986 Census public use microdata file on individuals".

It is advantageous therefore, to continue to work, more specifically as a part-timer and mostly in the case of women aged 70 or over, which is rather unusual. A complete analysis would call for narrow categorization according to time spent at work. However the paradox which appears from a global observation can be explained in large measure by the fact that elderly part-timers are eligible for annuity programs whereas full-time workers are not. Regardless, among these age groups, there are few old people who are still working either part-time or full-time.

Table 37 highlights the 66% increase in the income of non-working women when they move from the 60-64 age group to the 65-69 group. Using these data, one can figure the condition of women living alone between the ages of 50 and 64. Such women are not eligible either for annuity or pension as defined in this study. Therefore, unless they have substantial financial assets, they have no choice but to work until retirement when they become eligible to receive income from public sources. In this regard, being alone in the late preretirement years is a worse condition than being an elderly woman.

Table 36.   Average Total Income (in dollars) of Persons Aged 50 and Over
by Age Group, Sex and Marital Status, 1985[1]

	Single	Married[2]	Widowed or divorced[3]
		Males	
50-54 years	17,845	31,676	22,951
55-59 years	17,333	29,371	21,303
60-64 years	15,381	25,617	18,322
65-69 years	15,839	20,840	16,182
70-74 years	14,168	17,257	15,811
75-79 years	12,907	15,090	14,447
80-84 years	12,016	13,234	12,019
85 years and over	13,750	12,448	11,774
65 years and over	14,381	17,871	14,619
		Females	
50-54 years	19,491	9,628	15,452
55-59 years	17,454	8,108	13,561
60-64 years	16,277	7,248	12,165
65-69 years	15,320	8,768	12,474
70-74 years	14,247	9,027	12,418
75-79 years	12,625	8,752	11,919
80-84 years	13,545	8,617	11,351
85 years and over	12,190	9,357	10,649
65 years and over	13,943	8,845	11,969

[1] Excludes institutional residents.
[2] Includes persons living in common-law unions.
[3] Includes separated persons.

Source: Tabulations from the "1986 Census public use microdata file on individuals".

The situation for non-working men is different. The average income of the 60-64 age group and of the 65-69 group was identical. The fact that there were few non-working men under the age of 50, as compared to women, however, should be taken into account. Income fluctuations of non-working persons over age 65 are not comparable between men and women. Because of their employment history, men generally withdraw money from their pension fund when they are not yet eligible for public annuities and pensions; women from the same cohorts do not have that option because, on average, they were not in the labour market during their adult life. Assessing more precisely how income changes

Table 37. Average Income and Percentage Distribution of Persons Aged
50 and Over, by Labour Force Activity Status, Age Group and Sex,
Canada, 1985[1]

		Males labour force participants		Not active	Females labour force participants		Not active
		Full time	Part time		Full time	Part time	
50-54 years	$	33,450	17,279	12,518	19,936	11,092	3,507
	%	84.6	5.2	10.2	39.7	16.8	43.5
55-59 years	$	32,285	19,889	14,230	19,978	11,417	4,310
	%	75.7	5.5	18.7	29.2	13.4	57.4
60-64 years	$	30,771	21,842	16,582	20,497	12,630	5,856
	%	53.3	6.2	40.6	18.2	8.5	73.2
65-69 years	$	33,969	26,769	16,725	22,320	18,002	9,709
	%	15.7	6.1	78.2	3.6	3.7	92.7
70-74 years	$	29,888	25,739	15,305	18,924	17,394	10,805
	%	7.0	5.3	87.7	1.4	1.8	96.8
75 years and over	$	28,502	26,401	12,925	18,033	16,862	10,798
	%	3.6	3.2	93.2	0.8	0.9	98.3

[1] Excludes institutional residents.

Source: Tabulations from the "1986 Census public use microdata file on individuals".

at retirement would require a cohort analysis. In this way, the life cycle of individuals within various categories of successive life segments could be studied; for instance:

– working adult to working elderly life;

– working adult to non-working elderly life;

– non-working adult to non-working elderly life.

These are the most typical progressions, but the necessary data to examine these transitions do not exist.

The employment income, annuities and pensions discussed so far do not account for the total income used here as the main indicator of the economic situation of individuals. Other sources of income must be included. For one, wealth from real estate, financial and other liquid assets must be measured

Table 38. Level of Educational Attainment, Persons 50 Years and Over,
by Age Group and Sex, Canada, 1986[1]

Age group	Level of education				
	Total	Less than 9 years	From 9 to 13 years	Non-university education	University education
Males					
50-54 years	100.0	27.7	36.3	18.9	17.1
55-59 years	100.0	33.3	35.8	15.8	15.1
60-64 years	100.0	35.7	34.0	15.3	15.0
65-69 years	100.0	38.9	35.6	12.8	12.6
70-74 years	100.0	45.0	33.5	11.0	10.5
75-79 years	100.0	51.1	29.9	9.2	9.9
80-84 years	100.0	58.1	24.9	8.1	8.9
85 years and over	100.0	60.6	24.9	6.9	7.6
65 years and over	100.0	45.6	32.5	10.9	10.9
Females					
50-54 years	100.0	27.3	41.6	19.8	11.3
55-59 years	100.0	32.8	40.0	17.2	10.0
60-64 years	100.0	36.3	39.7	15.3	8.7
65-69 years	100.0	39.9	39.6	12.7	7.8
70-74 years	100.0	42.9	37.0	12.4	7.6
75-79 years	100.0	47.8	32.8	12.0	7.4
80-84 years	100.0	53.2	29.2	11.4	6.2
85 years and over	100.0	53.8	30.7	10.6	4.9
65 years and over	100.0	44.6	35.8	12.2	7.3

[1] Excludes institutional residents.

Source: Statistics Canada. Tabulations from the ''1986 Census public use microdata file on individuals''.

against cash outflow, debt, savings and consumer expenditures. Level of education should also be taken into account, considering that it indirectly affects the economic value of individuals. In terms of human capital (know-how and mental capacity) education differentiates individual capacity for well-being after retirement.

From the analysis presented in this study, it is evident that the economic situation of a large number of elderly is precarious. A possible reason is that these persons came from cohorts who had a difficult life during youth and adulthood. Therefore, in view of the progress made as to preparation for retirement (retirement savings plans, etc.), and the higher level of education of those who will enter this final life period, one could anticipate better economic conditions for the elderly in future years (Table 38).

Level of Education

Considering that the level of education does not rise significantly beyond the level attained early in life,[18] the future situation of the elderly can be depicted from today's adult situation. The population who will be 65 plus in the year 2016 will be constituted, therefore, more or less from those who were aged 35-64 in 1986, as the 65 and over in 2006 will be constituted from those aged 25-54, and so on.

This exercise shows that the percentage of elderly with less than a grade nine education will decrease significantly and that all other categories will increase between 1986 and 2016. The notable differences between men and women in 1986 should persist. In general, the greatest progression will occur at the post-secondary and university levels. Among men, the proportion of persons over the age of 65 with university training will rise from 11% in 1986 to 24% in the year 2016, and from 7% to 18% among women. This is a more than two-fold increase for both sexes.

Table 39. Level of Educational Attainment of Persons Aged 65 and Over by Sex, 1986-2016

	Less than 9 years	From 9 to 13 years	Non-university education	University education	Total
	Males				
1986	45.6	28.0	15.4	10.9	100.0
1991	41.8	28.5	17.3	12.4	100.0
1996	38.6	29.2	18.8	13.3	100.0
2001	34.9	29.8	20.8	14.5	100.0
2006	30.3	29.9	22.8	16.9	100.0
2011	25.1	29.8	24.9	20.2	100.0
2016	19.1	29.9	27.2	23.9	100.0
	Females				
1986	44.6	34.2	13.9	7.3	100.0
1991	41.6	35.7	14.8	7.8	100.0
1996	38.6	36.9	16.0	8.5	100.0
2001	35.2	38.1	17.5	9.3	100.0
2006	30.9	38.7	19.5	10.8	100.0
2011	25.5	38.6	22.1	13.8	100.0
2016	19.3	38.6	24.4	17.7	100.0

Source: Calculations made by the author from chosen projection and level of educational attainment (see text).

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[18] Of course this statement must be qualified taking into account the relatively recent development of adult education and senior citizen universities. This evolution is positive, and does not invalidate the proposed analysis.

From this brief foray into the future, one could anticipate that the socio-economic characteristics of the elderly of the future will be very different from those found today. These people will be more educated and women will have had a higher labour force participation rate. These two changes alone should substantially transform the economic situation of the elderly group in the next decade. More educated and wealthier, the population should in principle be able to better prepare themselves for old age[19] – provided, of course, that health problems will be relatively few. It should be remembered, however, that everything in life is relative. While the economic situation of the elderly of the future may well be better than that which prevails today, it is difficult to know if their relative situation will be better.

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[19] On this subject, see Nicole Marcil-Gratton and Jacques Légaré, ''Vieillesse d'aujourd'hui et de demain. Un même âge, une autre réalité ?''. *Futuribles*, No. 110 (May 1987), p. 3-21.

CHAPTER VII

THE HEALTH CONDITION OF ELDERLY

As the elderly population increases in number, and as the average age of this group rises, society is more and more interested in their health status because, short of a revolution in this area, problems increase with age and society bears much of the health care cost. Various indicators can be used to determine the health profile of a population, each one highlighting a different aspect. For this study the following indicators were derived from the 1985 General Social Survey (GSS) conducted by Statistics Canada:

- Self-Rated Health Status Well-Being and Satisfaction

- Reported Health Problems

- Hospital Utilization

- Consultation with Health Professionals

- Activity Limitations

It is important to keep in mind that, regrettably, institutional residents were excluded from the GSS survey. The two next indicators consider the total population:

- hospital discharge rates (based on hospital reporting) and,

- disability-free life expectancy.

For this reason, some conclusions concerning people over the age of 80 will not be as relevant as those for younger age groups since the very old are more often institutionalized.

Self-rated Health Status, Well-Being and Satisfaction

In spite of the subjectivity involved, it is useful to first examine how the elderly perceive their own health condition. Since the survey results did not reveal major differences between males and females regarding this information, Table 40 provides data for both sexes combined. For all persons aged 65 and over, two out of three non-institutionalized elderly thought they were in good or excellent health, and four-fifths reported that they were very satisfied or quite satisfied with their health. Less than one out of ten considered his or her health to be poor. As expected, the proportion of those who perceived their health condition as being excellent decrease as the age group of respondents rose. As well, the peculiar increase among the 80 years and over is a selection effect. The less healthy members of the population are increasing selected out due to institutionalization, leaving the most healthy to be part of the sample universe.

Table 40. Distribution of Elderly Persons, According to Self-perceived Health Status and Degree of Satisfaction, by Age Group, Canada, 1985[1]

	Age group				
	65-69 years	70-74 years	75-79 years	80 years and over	65 years and over
State of health:					
Excellent	23.2	20.1	14.5	15.6	19.4
Good	42.3	44.6	41.1	42.7	42.8
Average	27.3	27.8	30.9	32.3	29.0
Poor	7.3	7.6	13.5	9.4	8.9
Total	100.0	100.0	100.0	100.0	100.0
Degree of satisfaction:					
Very satisfied	43.3	40.9	33.3	39.1	40.0
Rather satisfied	36.2	40.4	41.9	38.6	38.9
Rather dissatisfied	14.5	14.1	17.1	15.4	15.1
Very dissatisfied	6.0	4.5	7.8	6.9	6.1
Total	100.0	100.0	100.0	100.0	100.0

[1] Excludes institutional residents.

Source: Statistics Canada, *General Social Survey, 1985* (Public Use Microdata File).

Reported Health Problems

The rate of reported health problems was calculated on the basis of GSS responses. Many individuals probably did not report all their problems, or did so inconsistently. Out of embarrassment or discretion, some who suffer from certain particular troubles may have been reluctant to report them. On the other hand, since respondents with certain symptoms may diagnose themselves with a seemingly appropriate illness, serious doubt arises about the accuracy of self-reported diagnoses. Finally there are all those who are unaware of their illnesses insofar as short of testing, certain illnesses remain undetected initially.

Table 41 shows the self-reported prevalence rate for the top five health problems of the elderly. The first striking observation is the extent of overall prevalence. Four people out of five elderly persons reported a health problem, which seems at variance with their self-perceived health condition as indicated earlier.

Limb and joint problems were the most frequently reported group of conditions: 46% of men and 63% of women aged 65 and over reported one of these afflictions. Hypertension was reported by more than one-third of people. More than one-quarter of all respondents reported some form of heart trouble, and another 25% some respiratory condition. Apart from heart trouble among women, the prevalence rates for both sexes did not increase much over the age of 65. This was probably due to the selection effect mentioned earlier.

Table 41. Prevalence[1] of Major Health Problems Among Elderly Persons
by Age Group and Sex, Canada, 1985[2]

Age group	Diseases of the joints[3]	Heart diseases	Respi- ratory diseases	Hyper- tension	Diabetes	At least one of the five problems
Males						
65-69 years	48.9	29.1	23.9	35.2	10.3	82.1
70-74 years	42.8	27.4	26.0	34.2	6.8	74.4
75-79 years	42.3	29.9	28.0	36.1	9.2	84.8
80 years and over	50.1	27.2	27.4	26.6	8.2	77.1
65 years and over	46.0	28.4	25.8	34.0	8.6	79.7
Females						
65-69 years	60.5	17.3	20.1	44.4	9.3	81.4
70-74 years	63.3	19.5	23.9	38.6	6.8	83.8
75-79 years	64.8	33.7	22.6	45.9	9.4	87.9
80 years and over	65.9	30.2	26.1	42.2	9.3	86.9
65 years and over	63.1	23.7	22.7	42.7	8.6	84.4

[1] Percentage of respondents stating this health problem.
[2] Excludes institutional residents.
[3] Arthritis, rheumatism and bursitis.

Source: Statistics Canada, *General Social Survey, 1985* (Public Use Microdata File).

Hospital Discharge Rates

The rate of hospital discharge results from comprehensive compilation of hospital records by Statistics Canada. The use of this rate as a measurement of the health status of the population however is not appropriate. First, this measure counts cases of hospitalization and not individuals. Yet the health of a population is the cumulation of the health condition of the individuals who constitute that population, as opposed to the number of times individuals required health services, perhaps for the same illness, during the year. Secondly, this measure is based on discharges from hospital including through death. Finally, illnesses which do not require hospitalization are not considered by this measure.

The rate of discharge from hospital during the year (the number of discharges divided by the average or mid-year population), increased with age for almost all disorders. Overall, it reached 50% among the eldest considered in Table 42. It seems paradoxical that the discharge rate of men was higher than that of women in view of the observation made earlier about prevalence of self-reported health status. Women more often than men reported health problems but were hospitalized less often.

Table 42. Separation Rate[1] for Persons Aged 45 and Over by Cause of
Hospitalization, Broad Age Group and Sex,
Canada, Fiscal Year 1987-1988

Causes of hospitalization	Age group		
	45-64 years	65-74 years	75 years and over
Males			
Infectious and parasitic diseases	122	235	478
Neoplasms	1,532	4,567	6,824
Endocrine and nutritional diseases	353	783	1,366
Diseases of the blood and blood-forming organs	67	227	649
Mental disorders	689	858	1,626
Diseases of the nervous system and sense organs	697	1,934	3,670
Diseases of the circulatory system	3,753	8,785	14,065
Diseases of the respiratory system	981	3,004	6,497
Diseases of the digestive system	2,512	4,140	5,966
Diseases of the genitrourinary system	1,221	3,412	4,841
Diseases of the skin and subcutaneous tissue	213	306	471
Diseases of the musculoskeletal system	1,106	1,425	1,619
External causes of injury	1,168	1,614	2,982
Other	1,526	2,835	5,288
All causes	15,940	34,125	56,342
Average length of stay (in days)	11.0	15.8	24.6
Females			
Infectious and parasitic diseases	118	216	427
Neoplasms	1,944	3,040	3,368
Endocrine and nutritional diseases	443	893	1,408
Diseases of the blood and blood-forming organs	81	247	620
Mental disorders	840	988	1,655
Diseases of the nervous system and sense organs	725	2,088	3,978
Diseases of the circulatory system	1,865	5,294	11,101
Diseases of the respiratory system	846	1,817	3,258
Diseases of the digestive system	2,022	3,034	4,623
Diseases of the genitrourinary system	1,766	1,568	1,622
Diseases of the skin and subcutaneous tissue	192	278	508
Diseases of the musculoskeletal system	1,196	1,907	2,262
External causes of injury	897	1,707	4,372
Other	1,421	2,451	4,460
All causes	14,356	25,528	43,662
Average length of stay (in days)	11.4	17.1	33.4

[1] Separation rate: the number of hospital separations during a given year divided by the average
population for the year (per 100,000).

Source: *Hospital Statistics*, Catalogue No. 82-003S.

According to these rates, men were hospitalized more often than women for cancer, cardiovascular, respiratory, gastrointestinal and genito-urinary diseases. By contrast, women were hospitalized more often for musculoskeletal diseases and for causes described as "external" (i.e., accidents, poisoning and violence). For all elderly, the discharge rate per 100,000 for respiratory diseases was about 14,000 among men aged 75 and over, and 11,000 for women of the same age. At the same ages, the discharge rate for cancer was two times higher for men than for women. Cancer was the second most cited cause of hospitalization among men, but the fourth for women.

In terms of the overall discharge rate and the rate for disorders cited above, the disparity between men and women widened considerably from the 45-64 age group (9%) to the 65 years plus group (30%) (Table 42).

In combining observations from the two sources examined to this point, the conclusions that can be drawn are that:

1) Limb and joint problems, cardiovascular diseases (hypertension, infarcts, arteriosclerosis) and cancer are the most often observed reasons for hospitalization and the two first most common self-reported conditions.

2) Even if women perceived their health condition to be worse than men, do their hospital discharge rates were lower.

Table 43.   Percentage of Elderly Persons Who Have Been Hospitalized or Have Consulted a Health Professional in the Last Twelve Months by Age Group and Sex, Canada, 1985[1]

Age group	Have been hospi-talized	Have consulted			
		Physician	Dentist	Nurse	At least one, once
Males					
65-69 years	12.4	84.4 (24.9)[2]	34.7	10.2	89.5
70-74 years	22.2	86.9 (23.7)	30.4	9.3	90.9
75-79 years	25.0	86.6 (41.8)	16.0	10.4	88.2
80 years and over	19.2	87.4 (31.7)	19.8	19.9	88.9
65 years and over	18.6	86.0 (28.6)	27.9	11.3	89.6
Females					
65-69 years	10.9	87.9 (24.9)	37.7	10.1	91.2
70-74 years	19.2	89.0 (31.0)	27.4	13.6	92.2
75-79 years	23.1	93.2 (31.3)	32.7	14.4	95.7
80 years and over	19.6	91.0 (37.6)	18.4	22.2	93.3
65 years and over	17.2	89.9 (30.3)	30.1	14.3	92.7

[1] Excludes institutional residents.
[2] The figures between brackets refer to visits that occured during the two weeks preceding the survey.
Source: Statistics Canada, *General Social Survey, 1985* (Public Use Microdata File).

Hospital Utilization in the Household Population

The focus now shifts from health conditions to the health care services available to the public. In view of the no-direct-charge-to-the-user hospital and medical care system extant in Canada, this analysis is not complicated by the bias which would be introduced if financial capacity had to be considered, as is the case in several countries. During the twelve months prior to the GSS, 18% of elderly Canadians were hospitalized. This proportion was about 20% among the 70-74 age group, and 25% in the case of the 75-79 group (Table 43). It should be stressed again concerning these figures that institutional residents, who comprise a large number of the advanced elderly, were excluded, and this accounts for the surprisingly low proportions hospitalized among persons 80 years of age and over. The hospital discharge rates continued to increase with age since in that measurement the total population was concerned.

Future Utilization of Hospital Services

With such a background, most projections portend a rapid increase over time in hospital services utilization by the elderly. As the elderly population grows in size and become older, even if the total number of hospital-days were to remain the same, a higher proportion of such days would be spent by the elderly. The histogram of days in hospital is shifting toward high ages. Of course the implicit postulate of such projections is that the trends observed in the recent past will continue: future elderly will behave the same way as today's elderly. Yet some researchers (Simmons-Tropea and Osborn)[20] have found that the individual's level of education is negatively correlated with hospitalisation rates. Their calculations also indicate that, based on the anticipated increase in the level of education among the future elderly, the number of days in hospital could be 13% lower than calculated solely on the basis of projected structural changes in the age composition of the population. This at very least represents a ray of hope.

Consultations with Health-care Professionals

Based on the GSS (that is to say, considering only the household population), it can be said from Table 43 that about ninety percent of the elderly had consulted a physician at least once during the previous twelve months, and 27% during the previous two weeks. About one-third had visited a dentist within 12 months while about 13% had seen a nurse. It seems that gender or age difference in terms of consultations with health care professionals showed only a slight difference in favour of very old women, except perhaps in the case of consultations with nurses. One could point out, that the decrease in dentist consultation among those over the age of 80 may be attributable to the absence of teeth.

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[20] Simmons-Tropea, D. and Osborn, R.W., "The Educational Composition of Canada's Future Elderly", Research Paper No. 6, Toronto, University of Toronto, 1986, 35 p.

Disability in Household Population

What form do health problems take in the daily life of the elderly? Only two men out of five and one woman out of four report that they can perform all of their daily activities[21] without any problem (Table 44). One woman out of ten had some difficulty performing at least three of the activities listed in the table. But with such general information, cautiousness is warranted when assessing the role of age structures in gender comparisons. As a result of the fact that disability increases with age, and more women than men reach very old age, the overall measure puts women at a disadvantage. And even when age was controlled, it can be said that women reported higher average disability levels than did men.

Table 44. Distribution of Elderly Persons According to Degree of Activity Limitation[1], by Age Group and Sex, Canada, 1985[2]

Age group	Degree of activity limitation					
	Incapacity free	Slight	Average	Serious	Extent unknown	Total
Males						
65-69 years	41.5	42.6	10.4	4.1	1.5	100.0
70-74 years	40.8	43.9	10.7	3.5	1.2	100.0
75-79 years	28.8	48.4	13.8	8.0	1.0	100.0
80 years and over	21.4	42.8	20.9	14.7	0.3	100.0
65 years and over	36.1	44.2	12.5	6.1	1.2	100.0
Females						
65-69 years	38.5	43.4	12.2	4.7	1.1	100.0
70-74 years	29.2	46.3	11.9	10.9	1.8	100.0
75-79 years	18.5	41.0	25.6	14.2	0.6	100.0
80 years and over	14.6	31.7	28.6	25.0	0.1	100.0
65 years and over	27.3	41.4	18.0	12.2	1.0	100.0

[1] Evaluation based on the capacity of the respondent to perform the activities of daily living (ADL) that is to say, to walk, to walk up or down stairs, read a newspaper, etc. There are some activity limitations if the respondent has difficulty with at least one (ADL) but is able to perform all of them; moderate, if he/she is not able to perform one or two (ADLs); major, if he/she cannot perform three or more.
[2] Excludes institutional residents.

Source: Statistics Canada, *General Social Survey, 1985* (Public Use Microdata File).

[21] See footnote of Table 45 for list of daily activities considered.

Table 45.   Percentage Distribution of Elderly Persons with a Major Activity Limitation[1], by Sex and Age Group, Canada, 1985[2]

Age group	Activity limitation			
	Mobility	Agility	Sight	Hearing
Males				
65-69 years	34.9	34.5	7.7	23.4
70-74 years	37.1	30.0	11.2	26.0
75-79 years	47.4	43.6	15.9	36.1
80 years and over	55.3	56.3	20.6	42.8
65 years and over	40.7	37.8	12.0	29.2
Females				
65-69 years	45.5	40.4	6.8	14.8
70-74 years	52.2	50.4	11.0	22.5
75-79 years	67.1	60.9	16.5	25.1
80 years and over	78.8	67.1	26.1	36.6
65 years and over	58.2	52.4	13.7	23.2

[1] A respondent could state more than one type of activity limitations.
[2] Excludes institutional residents.

Source: Statistics Canada, *General Social Survey, 1985* (Public Use Microdata File).

Mobility limitations were the most frequently reported disability among both men and women. They were reported by as many as four out of five elderly women over the age of 80 (Table 45). In addition, one-quarter of the persons aged 80 and over suffer from a hearing limitation, and one out ten had a visual limitation. All these disorders worsened with age.

Disability-free Life Expectancy in the Total Population

The measure of disability-free life expectancy is a synthesis of all disability measures and represents the average number of years one could expect to live without disability.[22] The measure of disability-free life expectancy does not take into account any health problems or impairments unless they result in disability.

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[22] The exact meaning of disability being neither universal nor indisputable, grading and equivalences in the levels of disability may be set. This second indicator claims to convey more precisely the average level of intrinsic health of the population. For further explanation, see Russell Wilkins and Owen Adams, *Health Expectancy in Canada, 1986* in Jean-Marie Robine, Madeleine Blanchet and John Ed Dowd, eds., "Health Expectancy. First Workshop of the International Healthy Life Expectancy Network (REVES)". Office of Population Censuses and Surveys (OPCS), Studies on Medical and Population Subjects, No. 54, London: HSMO, 1992, pp. 57-60.

Table 46.   Life Expectancy at Selected Ages by Sex, Canada, 1986

Life expectancy	Total		Weighted for the severity of the disability[1]		Incapacity-free	
	Years	%	Years	%	Years	%
Males						
0 years	73.0	100	68.5	94	61.3	84
15 years	59.0	100	54.7	93	48.0	81
25 years	49.6	100	45.4	92	39.0	79
35 years	40.2	100	36.2	90	30.1	75
55 years	22.3	100	18.9	85	14.0	63
65 years	14.9	100	12.1	81	8.1	54
Females						
0 years	79.8	100	73.6	92	64.9	81
15 years	65.6	100	59.6	91	51.2	78
25 years	55.8	100	49.9	89	41.9	75
35 years	46.1	100	40.4	88	32.7	71
55 years	27.5	100	22.5	82	15.9	58
65 years	19.2	100	14.8	77	9.4	49
Both sexes						
0 years	76.4	100	71.0	93	63.1	83
15 years	62.3	100	57.1	92	49.6	80
25 years	52.7	100	47.7	91	40.4	77
35 years	43.2	100	38.3	89	31.4	73
55 years	25.0	100	20.7	83	15.0	60
65 years	17.2	100	13.5	78	8.8	51

[1] Weighting reflects the years lived with some form of disability according to its severity. The weighting, which is more or less arbitrary, varies from 0.7 in the case of a slight incapacity, to 0.3 where it is more severe.

Source: Wilkins, Russell and Owen B. Adams, *Health Expectancy. First Workshop of the International Healthy Life Expectancy Network* (REVES). Office of Population Censuses and Surveys (OPCS), Studies on Medical and Population Subjects, No. 54, London: HMSO 1992, pp. 57-60.

Figure 21
Life Table Survivors and Life Table Disability-free Survivors by Age and Sex, Canada, 1986
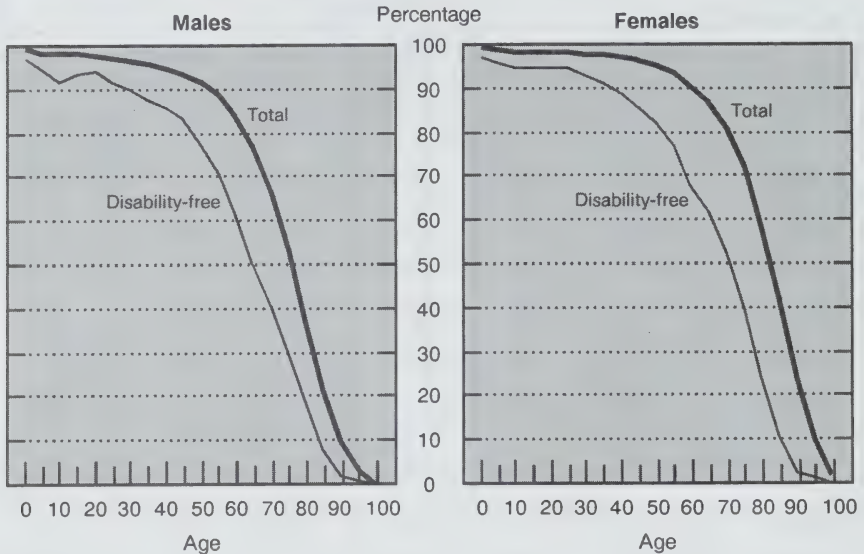
Source: Table A20.

Of the 76 years of life expectancy at birth attributed to Canadians according to the 1986 life table (Table 46), 83% were free of disability. As men have a shorter life expectancy than women, and considering only the number of years at risk, a greater proportion of men's can be expected to be free from disability. The proportion of disability-free life expectancy decreased steadily with age. For instance, for female at age 35, disability-free life expectancy represented 71% of total life expectancy while, at age 65, it represents only 49% of the shorter life expectancy at that age. In the case of men, the corresponding percentages were 75% and 54%, respectively. For both genders combined, at the age of 65, of the remaining 17 years of expected life, half of these 17 years will feature some form of disability.

Survival curves according to health condition convey another aspect of the same reality (Figure 21). The disability-free survival curve takes a less rectangular shape than that for total survival: the area between the two curves represents the total years of life with disability. Since the area is larger in the case of women, it means that of their total life expectancy (which is longer than

that of men), a larger portion is lived with diminished health. One could conclude with little risk of error that a significant portion of the gains in life expectancy which have been made during recent years represents gains of life in poor health. All things being equal however, one could fear that the same should also be true of future gains.

Conclusion

The data presented here confirm some intuitive perceptions about the health conditions of the elderly. The ageing of the body causes health deterioration which may translate into illness and disability, and may entail hospitalization and the utilization of other health care facilities and the use of medication, etc. According to common indicators, males and females differ in some important respects – and these differences are difficult to explain. To offer that men and women have a "different understanding" of health and of the means to preserve would be a facile and shallow expedient. But the differences persist at all ages.

Most likely the health of individuals at a given age depends on their current lifestyle, but results also on their former lifestyle. For this reason, some people believe that the way to prepare for elderly life in good health is to adopt healthier lifestyles early in life. In the short term however, some major policy choices will obviously have to be made in terms of the type of medical care to promote, including encouraging autonomy or conversely increasing dependency on the system. Undoubtedly, these issues are already being debated and, over time and with the increasing size of the elderly population, they will become increasingly important.

Conclusion

The ageing of the population is the inevitable consequence of a demographic transition reaching its end as it gradually strikes a new numerical profile of the various segments of the population. The elderly will account for an unprecedented proportion of society, which will most certainly necessitate economic, social and political adjustments. Put simply, the number and proportion of elderly may bear heavily on efforts that society must make in order to provide an increasingly older elderly population with the welfare level available to today's elderly, and eventually, a better one. The implications of such a scenario will be discussed from various angles in this chapter.

Health

It is easy to make a vision of the future credible when making projections based on undisputed trends. Yet in the previous pages of this study, it was shown that increased longevity resulted from the deferment of mortality among a larger number of people who, in turn, experienced more-or-less serious disabilities, the cost of which so far has been taken on by society. One could conclude that the increasing number of elderly will inevitably result in considerably higher health care spending, all the more so since the costs per capita tend to increase as the weapons to fight death become more sophisticated.

Visions of the future derived from such premises become the well-known scenarios of catastrophe. Though there is cause for worry, the hypothesis on which these scenarios are based need critical examination.

One could question whether the age-specific health conditions of the future elderly population will resemble those observed at the same ages today. Several commentators argue convincingly that, on average, health condition will be improved because people will have lived their childhood and adolescence in better sanitary and dietary environments than did previous generations. Furthermore, adult life will have been less demanding physically, the working hours fewer, and with fewer serious illnesses.

Expectations are lower with regard to the health of the advanced elderly considering that the degeneration of the body is still the medical world's "Rock of Sisyphus".

Aware of these realities, the medical profession is pondering the traditional approach to medicine which, incidentally, still finds many advocates: sustaining life at all costs. This approach emerged very early in civilization as a fundamental objective of medicine at a time when death struck hard at all ages. Many doctors now question this concept. For instance, discussion about legalizing passive

euthanasia in terminal cases is already a more dispassionate debate than in the past, and some even speak of the right to die. Gerontologists are looking increasingly into the concept of quality of life, in teams alongside biologists, clinicians, psychiatrists and psychologists. As there are fewer sick children to care for, geriatrics is taking precedence over pediatrics. Physicians are also increasingly joining with health care technicians knowledgeable about the specific needs of the elderly. At the same time, there is a renewed awareness of the fact that these needs do not necessarily require clinical intervention, and that they may be provided in the elderly's usual place of residence.

Such preoccupations are shared by the medical professions and by society at large, and are reflected when governmental health departments prepare their policies for the future.

The knowledge which brings about new medical treatment increases with time, and some techniques involve pharmacology. Disciplinary compartmentalization most likely accounts for the proliferation of targeted drugs, which the elderly use more than anyone else. As a result of drug overuse, some elderly may eventually experience some form of drug dependency. Apart from unknown or sometimes deleterious effects, overuse of expensive drugs also adversely affects society's budget. This is another area where health care professionals share their expertise with government services responsible for designing subsidy policies which are compatible with public finances.

Undoubtedly, both preventive and curative approaches contribute to the survival and the quality of life among the elderly. Although the results of preventative approaches may be less readily demonstrable and quantifiable than curative ones, they are less expensive. For everyone's welfare, promoting prevention seems wise, even though results may only become apparent in the long term.

Economy

There is an economic aspect to every social phenomenon, and this is true of the ageing of the population. One such aspect is the restructuring of production and consumption entailed by a future shift in the relative importance of producers versus consumers.

In a society where the production of goods and services is organized into chartered trade and professional associations, for the majority of people, old age coincides with the institutional end of employment – namely, retirement.

For quite a number of years, work termination has no longer meant deprivation of income. Indeed when retirement was officially instituted, the problem arose as to how to ensure the survival of people who no longer earned a salary. The saving system of former days, which created unacceptable disparities between

those who were eliminated from the labour market, was eventually replaced in a more or less pure form by the formula of instant distribution better known as "Pay-as-you-go". Most laudable in intent, this formula requires that wage-earners provide at all times for the needs of retired people. It was adopted at a time when no increase in the number of beneficiaries was anticipated. Their increase, however, also entails a reduction in the proportion of wage-earners left to shoulder the burden of retirees. Even considering the more sophisticated economy of a developed country where the complex dynamics of capitalization are at play, there is some doubt as to whether this formula can remain operational. The sustainment of retirees by wage earners won't be possible without, at the very least, a careful and thorough rearrangement of policies.

Seeking some assistance, the state is trying to encourage young generations in particular to subscribe to retirement savings plans by offering immediate tax benefits. It encourages private retirement benefit plans in an attempt to hold on to existing programs like old age security pension and guaranteed income supplement benefits for the more needy.

Women were long disadvantaged by the fact that they only had a moderate labour market participation as wage-earners. For a long time, only the most socially advanced countries (and Canada is now on the list), having organized their finances accordingly, were paying widows a portion of their deceased husband's pension. Elderly Canadian women are anything but wealthy since they account for the largest proportion of people living under the poverty line. The fact that the needs of women decrease as they get older explains why this painful situation is not even more tragic. In the case of future elderly generations, a large number of women will have contributed to retirement plans. In short, from the sole economic point of view of having to provide for the needs of former workers, ageing presents insurmountable obstacles with regard to upholding current practices unchanged: change is inevitable.

Happily, although the future demographic situation does not bode well, the final word has not yet been uttered about increasing productivity, an element which to some extent should help a society which will not relinquish existing benefits unless all its resources have been depleted. Unconditional postponement of retirement age is unlikely, considering that this action would be perceived as a social setback. Flexible retirement age appears, however, like a winning solution and is already gaining ground as an acceptable policy. Properly regulated, progressive retirement has the merit of reducing somewhat the number of unemployed and at the same time increasing the number of workers, with advantages for both categories. Furthermore, it is advantageous from the individual point of view since it introduces a transition period to part-time work. Secondary benefits ensuing from gradual retirement include avoiding the trauma caused by a sudden withdrawal from the labour market, which often translates into more-or-less serious psychological and physiological disorders.

Family

Old age in modern societies is often a solitary and isolated life for people feeling insecure because of deteriorating physical and mental faculties. In ancient societies, elders were generally visited, respected, listened to, privileged, venerated and feared. Admittedly, few lived long enough to experience elderly wisdom. It can be said without cynicism that old age now being easily accessible, the elder's position, whose life experience is no longer valued as much, has become trivialized. The disadvantages associated with their physical and psychological disorders take precedence over their knowledge and experience, the more so as they have few descendants to help them out of their disabilities.

Furthermore, in the context of easier material life, the elderly often postpone cohabitation with their children or family members for as long as possible, valuing highly the independence they acquired during adult life. In this context, it seems most appropriate to facilitate the autonomy of the elderly by taking advantage of technical innovations, notably with regard to health care and locomotion.

In terms of housing, there is an increasing number of residential complexes designed according to various levels of autonomy, with suitable medical and essential services at hand. Policies aimed at encouraging developers would most certainly benefit both users and the whole society.

Education, Recreation and Culture

Realizing the threat of becoming rapidly and insidiously isolated, many elderly are already involved in cultural group activities. With ever-improved mental capacities, the future elderly will use retirement to start or complete certain studies, promote political views and organize social activities which are too time-consuming for those fully involved in adult life activities. For governments, given certain inexpensive policies, the elderly represent a cooperative and benevolent workforce which could be an unsuspected source of productivity.

Thanks to these various types of activities, society will no longer associate retirement with idleness, uselessness, sterile consumption and other negative, pejorative or belittling ideas. Retirement as lived nowadays did not exist in ancient societies. As institution it results from the eighteenth and nineteenth century concept of man-machine. Based on the model of after-work rest enlarged to the entire life, retirement represented the final inactive stage, a model that will appear less and less justifiable in the context of a human existence that has changed pace. The cohorts now involved in the labour market already know that they will have to retrain several times to take on the roles which are constantly created as a result of progress. For this reason, after retirement the elderly will be better prepared to play new roles (provided that they are tailored to their abilities) and thus to live actively for as long as they can, as in former times.

Appendices

Table A1. Estimates and Projection (in thousands) **of Persons Aged 65 Years and Over, and Their Proportion** (in %) **of the Total Population, by Broad Geographic Regions, 1950-2025**

Regions	1950	1970	1990	2010	2025
	Population aged 65 years and over[2]				
World	128,300	199,600	328,100	525,900	824,900
More developed regions[1]	63,300	100,700	146,000	193,800	257,200
Less developed regions[1]	64,000	98,000	183,900	330,100	572,000
Africa	7,100	11,200	19,300	36,800	65,600
Latin America	5,500	11,100	21,500	38,400	65,100
North America	13,500	21,700	34,500	40,500	66,100
Asia	55,100	84,000	155,600	279,800	471,600
Europe	34,100	52,400	66,800	82,500	103,600
Oceania	900	1,400	2,400	3,400	5,300
USSR	11,000	18,000	27,700	39,600	52,100
	Proportion of the total population				
World	5.1	5.4	6.2	7.3	9.7
More developed regions[1]	7.6	9.6	12.1	14.8	19.0
Less developed regions[1]	3.8	3.7	4.5	5.6	8.0
Africa	3.2	3.1	3.0	3.2	4.1
Latin America	3.3	3.9	4.8	6.1	8.6
North America	8.1	9.6	12.5	13.6	19.9
Asia	4.0	4.0	5.0	6.6	9.6
Europe	8.7	11.4	13.4	16.0	20.1
Oceania	7.5	7.3	9.0	10.2	13.9
USSR	6.1	7.4	9.6	12.1	14.8

[1] The less developed regions comprise Africa, Latin America, some countries of South and East Asia other than Japan, Melanesia, Micronesia-Polynesia; the more developed regions comprise North America, Japan, Europe, the USSR, Australia and New Zealand.

[2] The number of elderly persons has been obtained by multiplying the total number of inhabitants in each region by the proportion of persons aged 65 years and over published in the *United Nations, World Population Prospects, 1990*. New York, 1991. (Department of International Economic and Social Affairs, Population Studies No. 120). In the case of projections, the middle scenario has been chosen.

Sources: United Nations, *World Population Prospects 1990*, New York, 1991 (Population studies No. 120) and Statistics Canada, Demography Division, Population Projections Section.

**Table A2.   Evolution of Canada's Population Aged 65 and Over,
1951-2036 (in thousands)**

Year	65-69 years	70-74 years	75-79 years	80-84 years	85 years and over
1951	433.5	315.1	188.4	96.8	52.5
1961	487.1	402.2	274.2	146.8	80.8
1971	620.0	457.4	325.5	204.2	137.4
1981	844.3	633.4	432.7	256.8	193.8
1991	1,073.2	821.9	614.8	376.8	283.4
2001	1,129.6	1,006.8	822.7	537.7	473.7
2011	1,491.4	1,109.3	884.1	675.1	701.1
2021	2,100.3	1,722.9	1,173.9	752.4	828.0
2031	2,329.3	2,136.1	1,648.8	1,162.6	1,031.0
2036	2,051.0	2,120.2	1,837.8	1,294.5	1,261.8

Sources: Statistics Canada, 1951-1991: Censuses of Canada. From 2001 to 2036, the projection
chosen by the author (see text).

**Table A3.   Proportion of Persons Aged 65 and Over in the Total
Population (%) and Evolution of the Dependency Ratios,
Canada, 1881-2036**

Year	Elderly proportion	Elderly dependency[1]	Youth dependency[2]	Total dependency[3]
1881	4.1	0.09	1.08	1.17
1891	4.6	0.09	0.98	1.07
1901	5.1	0.10	0.89	0.99
1911	4.6	0.09	0.80	0.89
1921	4.8	0.09	0.84	0.94
1931	5.5	0.11	0.79	0.89
1941	6.7	0.12	0.67	0.79
1951	7.8	0.14	0.70	0.84
1961	7.6	0.15	0.83	0.98
1971	8.1	0.15	0.75	0.90
1981	9.7	0.17	0.55	0.72
1991	11.6	0.19	0.46	0.65
2001	12.9	0.21	0.43	0.64
2011	14.6	0.24	0.39	0.63
2021	18.6	0.32	0.38	0.70
2031	22.7	0.41	0.40	0.81
2036	23.2	0.42	0.40	0.82

[1] Ratio of the population of persons 65 years and over to that of persons 20 to 64 years old.
[2] Ratio of the population of persons 0 to 19 years old to that of persons 20 to 64 years old.
[3] Ratio of the population of persons 0 to 19 years old as well as that of persons 65 years and over
to that of persons 20 to 64 years old.

Source: Calculations based on data from selected censuses of population, and the projection of
the Canadian population chosen for this study.

Table A4. Percentage Distribution of the Canadian Population by Five-year Age Group and Sex, Canada, 1881-2036

Age group	1881	1921	1951	1991	2011	2036
	Males					
0-4	7.0	6.1	6.3	3.6	2.9	2.7
5-9	6.6	6.0	5.1	3.6	3.0	2.8
10-14	6.1	5.3	4.1	3.5	3.1	2.9
15-19	5.6	4.6	3.8	3.5	3.4	2.9
20-24	4.4	4.0	3.8	3.6	3.3	3.0
25-29	4.4	4.0	3.9	4.3	3.3	3.0
30-34	2.9	3.9	3.7	4.5	3.3	3.1
35-39	2.9	3.9	3.6	4.2	3.4	3.2
40-44	2.2	2.9	3.2	3.8	3.4	3.4
45-49	2.2	2.9	2.8	3.0	3.9	3.2
50-54	1.5	2.0	2.4	2.4	3.8	3.2
55-59	1.5	2.0	2.1	2.2	3.3	3.0
60-64	1.2	1.4	1.9	2.1	2.9	2.9
65-69	0.9	1.0	1.6	1.8	2.1	2.6
70 and over	1.3	1.4	2.3	3.0	4.0	7.0
	Females					
0-4	6.8	6.0	6.0	3.4	2.8	2.5
5-9	6.4	5.9	4.9	3.4	2.8	2.6
10-14	5.8	5.2	4.0	3.4	3.0	2.7
15-19	5.6	4.6	3.8	3.3	3.2	2.8
20-24	4.5	4.0	3.9	3.6	3.1	2.8
25-29	4.5	4.0	4.1	4.4	3.2	2.9
30-34	2.9	3.4	3.8	4.6	3.2	2.9
35-39	2.9	3.4	3.5	4.2	3.2	3.1
40-44	2.1	2.5	3.0	3.8	3.4	3.2
45-49	2.1	2.5	2.5	3.0	3.9	3.1
50-54	1.4	1.7	2.3	2.4	3.9	3.1
55-59	1.4	1.7	2.0	2.3	3.5	3.0
60-64	1.1	1.3	1.7	2.2	3.1	2.9
65-69	0.8	0.9	1.5	2.1	2.4	2.9
70 and over	1.2	1.4	2.4	4.7	6.1	10.7

Sources: Statistics Canada. 1881-1991: Censuses of Canada. 2001-2036: the projection chosen for this study (see text).

Table A5.   Average Annual Increase (in thousands) of the Number of Elderly Persons by Sex for Five-year Periods, Canada, 1951-2036

Five-year periods	Males	Females
1951-1956	14.2	17.3
1956-1961	10.4	19.1
1961-1966	8.5	21.2
1966-1971	13.0	27.9
1971-1976	18.7	32.9
1976-1981	27.1	44.6
1981-1986	24.5	42.8
1986-1991	39.4	55.1
1991-1996	35.5	51.7
1996-2001	29.5	43.4
2001-2006	28.7	42.0
2006-2011	47.0	60.4
2011-2016	73.3	91.5
2016-2021	76.8	101.7
2021-2026	82.2	112.6
2026-2031	59.9	91.4
2031-2036	14.4	37.4

Source: Calculations by the author based on the data in Tables A3.

Table A6.   Male and Female Life Expectancy for Selected Ages and Years, Canada, 1951-1986

Year	Life expectancy							
	At birth		At age 65		At age 75		At age 85	
	Males	Females	Males	Females	Males	Females	Males	Females
1951	66.3	70.8	13.3	15.0	7.9	8.7	4.3	4.6
1956	67.6	72.9	13.4	15.6	8.0	9.1	4.3	5.0
1961	68.3	74.1	13.5	16.1	8.2	9.5	4.5	4.9
1966	68.7	75.1	13.6	16.7	8.4	9.9	4.8	5.2
1971	69.3	76.3	13.7	17.5	8.5	10.6	4.7	5.7
1976	70.1	77.4	14.0	18.0	8.6	11.0	4.7	5.8
1981	71.8	78.9	14.6	18.9	9.0	11.7	5.1	6.5
1986	73.0	79.7	14.9	19.1	9.1	11.9	5.1	6.4

Source: Statistics Canada: D. Nagnur, *Longevity and Historical Life Tables 1921-1981 (Abridged), Canada and the Provinces*, Catalogue No. 89-506.

Table A7. Number of Survivors According to the Life Table for Selected Ages
and for Selected Years, 1891-1986

Age	1891		1921		1951		1986	
	Males	Females	Males	Females	Males	Females	Males	Females
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	83,490	85,644	90,884	92,730	95,794	96,643	99,142	99,322
5	75,189	77,266	88,162	90,268	95,003	95,986	98,950	99,164
10	73,112	75,178	86,831	89,086	94,544	95,665	98,847	99,081
15	71,907	73,678	85,925	88,229	94,158	95,408	98,687	98,986
20	70,096	71,751	84,640	87,051	93,513	95,040	98,186	98,792
25	67,559	69,311	83,075	85,436	92,652	94,580	97,521	98,590
30	65,034	66,744	81,469	83,682	91,842	94,055	96,895	98,372
35	62,409	64,089	79,947	81,790	90,915	93,379	96,239	98,087
40	59,517	61,301	78,122	79,561	89,749	92,420	95,468	97,681
45	56,148	58,389	75,953	77,214	87,978	91,035	94,336	96,995
50	52,183	55,234	73,215	74,405	85,191	88,977	92,514	95,864
55	47,401	51,409	69,663	70,726	80,867	86,116	89,460	94,067
60	41,628	46,536	64,397	65,980	74,560	81,884	84,572	91,354
65	34,607	40,107	57,603	59,640	65,876	75,584	77,281	87,288
70	26,347	31,966	48,282	50,388	55,109	66,667	66,908	81,231
75	17,450	22,276	35,883	38,418	41,930	54,045	53,397	72,302
80	9,382	12,814	22,570	25,012	27,035	37,747	37,567	59,429
85	3706	5,527	11,123	12,994	13,490	20,760	21,828	42,576
90	889	1,466	3,624	4,508	4,454	7,933	9,490	24,033
95	113	206	..	..	..	..	2,796	9,548
99	0	0	0	0	0	0	0	0

Source: Statistics Canada: D. Nagnur, *Longevity and Historical Life Tables 1921-1981 (Abridged),
Canada and the Provinces*, Catalogue No. 89-506.

Table A8. Death Rate by Age Group and Sex, Canada, 1989 (per thousand)

Age group	Males	Females	Age group	Males	Females
0	5.5	4.3	45-49	2.4	1.5
1-4	0.3	0.2	50-54	4.0	2.3
5-9	0.1	0.1	55-59	6.9	3.6
10-14	0.2	0.1	60-64	11.5	5.8
15-19	0.7	0.2	65-69	18.1	9.1
20-24	0.8	0.3	70-74	28.4	14.6
25-29	0.9	0.3	75-79	44.0	24.6
30-34	0.9	0.4	80-84	70.1	42.1
35-39	1.1	0.6	85-89	105.2	70.5
40-44	1.5	0.9	90	177.0	138.8

Sources: Statistics Canada, Population estimates and an internal document on deaths from the
Canadian Centre for Health Information.

Table A9. Evolution of the Male and Female Death Rates by Age Group, Canada, 1921-1989

Males

Age group	1921	1926	1931	1936	1941	1946	1951	1956	1961	1966	1971	1976	1981	1986	1989
1-4	7.9	9.0	6.8	5.5	4.7	3.3	2.1	1.6	1.3	1.1	0.9	0.8	0.6	0.5	0.4
5-9	3.1	2.5	2.2	1.9	1.7	1.3	1.0	0.8	0.6	0.6	0.6	0.4	0.3	0.3	0.2
10-14	2.1	2.1	1.5	1.4	1.4	1.1	0.8	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.3
15-19	3.1	2.9	2.5	2.1	2.0	1.7	1.4	1.2	1.2	1.3	1.4	1.4	1.4	1.0	1.1
20-24	3.7	3.5	3.2	2.6	2.6	2.1	1.9	1.7	1.7	1.6	1.8	1.8	1.6	1.4	1.3
25-29	4.0	3.5	3.4	2.9	2.7	2.0	1.8	1.6	1.5	1.6	1.5	1.5	1.4	1.2	1.3
30-34	3.8	3.7	3.5	3.2	2.8	2.2	2.1	1.8	1.6	1.7	1.6	1.5	1.4	1.4	1.4
35-39	4.7	4.8	4.2	4.0	3.8	2.9	2.5	2.3	2.3	2.2	2.2	2.0	1.8	1.6	1.7
40-44	5.6	5.9	5.4	5.0	5.0	4.4	3.9	3.4	3.4	3.4	3.6	3.2	2.8	2.4	2.2
45-49	7.3	7.4	7.2	7.1	7.3	6.5	6.4	5.8	5.8	5.7	5.7	5.6	4.7	3.9	3.6
50-54	9.8	10.1	10.7	10.2	10.6	9.9	10.4	9.6	9.6	9.7	9.3	8.9	7.6	6.8	6.0
55-59	15.2	15.7	15.4	15.4	16.0	15.3	16.2	15.5	15.2	15.4	14.6	14.3	12.4	11.3	10.3
60-64	21.9	23.7	22.9	24.9	24.2	23.8	24.5	24.0	24.0	24.0	22.9	22.1	19.6	18.0	17.3
65-69	33.4	38.1	35.2	36.0	37.3	37.1	35.1	35.7	35.7	36.2	34.7	33.3	30.7	28.4	26.9
70-74	56.9	62.6	55.0	58.2	58.5	54.0	54.5	53.4	54.0	53.1	51.9	51.4	45.8	44.4	42.8
75-79	89.4	101.6	87.4	90.6	95.7	86.7	87.6	82.8	81.8	79.9	79.0	77.3	71.7	70.1	65.8
80-84	133.8	152.5	134.1	149.2	147.6	130.4	135.5	132.6	125.1	124.0	118.8	118.2	109.2	107.2	105.0
85 +	228.2	252.6	228.1	227.1	241.9	225.6	235.1	221.9	208.9	213.4	198.6	195.7	188.5	190.3	187.8

Females

Age group	1921	1926	1931	1936	1941	1946	1951	1956	1961	1966	1971	1976	1981	1986	1989
1-4	6.9	8.2	6.1	4.8	4.0	2.8	1.8	1.4	1.0	0.9	0.8	0.6	0.5	0.4	0.4
5-9	2.7	2.1	1.7	1.7	1.3	1.1	0.7	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.2
10-14	1.9	1.8	1.5	1.2	1.0	0.8	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2
15-19	2.7	2.9	2.2	1.9	1.5	1.3	0.9	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.4
20-24	3.7	4.0	3.2	2.8	2.0	1.8	1.0	0.6	0.6	0.5	0.6	0.5	0.5	0.4	0.5
25-29	4.1	4.1	3.8	3.1	2.5	1.9	1.1	0.8	0.7	0.6	0.6	0.6	0.6	0.4	0.5
30-34	4.5	4.6	4.2	3.8	3.4	2.1	1.5	1.0	0.9	0.9	0.9	0.8	0.6	0.6	0.6
35-39	5.5	5.6	4.8	4.5	4.0	2.7	2.0	1.5	1.4	1.3	1.3	1.2	1.0	0.9	0.8
40-44	5.9	6.1	5.0	4.9	4.5	3.6	3.0	2.4	2.0	2.0	2.1	1.7	1.6	1.4	1.3
45-49	7.1	7.5	6.6	6.3	6.0	5.3	4.5	3.7	3.2	3.3	3.0	3.0	2.6	2.4	2.2
50-54	10.2	9.5	9.0	9.2	8.1	7.4	6.5	5.7	5.3	5.0	4.6	4.3	4.1	3.8	3.4
55-59	13.5	13.5	13.4	12.9	12.3	11.3	10.2	8.8	8.0	7.7	7.2	6.7	6.3	5.7	5.5
60-64	19.7	21.0	20.7	20.7	18.5	16.7	16.1	14.8	12.8	12.2	11.0	10.4	9.8	9.0	8.7
65-69	33.2	35.0	30.3	31.1	30.4	27.4	24.9	22.3	21.4	19.5	17.3	16.4	15.2	14.3	13.6
70-74	52.8	54.0	49.1	50.8	47.0	44.3	41.6	37.0	34.2	30.9	28.3	26.3	23.9	23.4	22.1
75-79	80.9	92.8	82.9	81.4	79.7	71.9	73.3	68.8	59.2	53.9	48.1	44.7	38.9	38.9	36.8
80-84	122.4	144.5	127.1	133.1	131.2	119.3	120.7	110.5	101.2	93.6	82.4	76.8	67.2	66.3	63.0
85 +	224.9	274.3	212.6	218.1	229.3	213.8	212.0	198.3	192.2	183.4	163.3	154.7	141.6	147.0	141.2

Sources: Statistics Canada, Canadian Centre for Health Information: *Deaths 1989*, in Health Reports, Catalogue 82-003S15. For previous years, annual publications, *Births and Deaths*, Catalogue Nos. 84-204 and *Deaths*, Catalogue No. 84-206.

Table A10. Indexed Death Rates by Sex for Selected Age Group, Canada, 1921-1989
(1921 rates = 100)

Age group	1921	1926	1931	1936	1941	1946	1951	1956	1961	1966	1971	1976	1981	1986	1989
Males															
20-24	100.0	94.6	86.5	70.3	70.3	56.8	51.4	45.9	45.9	48.6	48.6	48.6	43.2	37.8	35.0
40-44	100.0	105.4	96.4	89.3	89.3	78.6	69.6	60.7	60.7	60.7	64.3	57.1	50.0	42.9	39.3
60-64	100.0	108.2	104.6	113.7	110.5	108.7	111.9	109.6	109.6	109.6	104.6	100.9	89.5	82.6	79.0
65-69	100.0	114.1	105.4	107.8	111.7	111.1	105.1	106.9	106.9	108.4	103.9	99.7	91.9	87.1	80.5
70-74	100.0	110.0	96.7	102.3	102.8	94.9	95.8	93.8	94.9	93.3	91.2	90.3	80.5	79.4	75.2
75-79	100.0	113.6	97.8	101.3	107.0	97.0	98.0	92.6	91.5	89.4	88.4	86.5	80.2	76.2	73.6
80-84	100.0	114.0	100.2	111.5	110.3	97.5	101.3	99.1	93.5	92.7	88.8	88.3	81.6	78.3	78.5
85 +	100.0	110.7	100.0	99.5	106.0	98.9	103.0	97.2	91.5	93.5	87.0	85.8	82.6	85.7	82.3
Females															
20-24	100.0	108.1	86.5	75.7	54.1	48.6	27.0	16.2	16.2	13.5	16.2	13.5	13.5	10.8	13.5
40-44	100.0	103.4	84.7	83.1	76.3	61.0	50.8	40.7	33.9	33.9	35.6	28.8	27.1	23.7	37.3
60-64	100.0	106.6	105.1	105.1	93.9	84.8	81.7	75.1	65.0	61.9	55.8	52.1	49.4	45.8	44.2
65-69	100.0	105.4	91.3	93.7	91.6	82.5	75.0	67.2	64.5	58.7	52.1	49.4	45.8	44.0	41.0
70-74	100.0	102.3	93.0	96.2	89.0	83.9	78.8	70.1	64.8	58.5	53.6	49.8	45.3	43.4	41.9
75-79	100.0	114.7	102.5	100.6	98.5	88.9	90.6	85.0	73.2	66.6	59.5	55.3	48.1	47.7	45.5
80-84	100.0	118.1	103.8	108.7	107.2	97.5	98.6	90.3	82.7	76.5	67.3	62.7	54.9	51.9	51.5
85 +	100.0	122.0	94.5	97.0	102.0	95.1	94.3	88.2	85.5	81.5	72.6	68.8	63.0	63.0	62.8

Source: Calculations by the author based on data in Table A9.

Table A11. Percentage Distribution of Deaths Among Persons Aged 65 and Over
by Sex and Age, Canada, 1951 and 1989

Age	1951		1989	
	Males	Females	Males	Females
65	4.3	3.2	3.2	1.9
66	3.9	3.0	3.5	2.1
67	4.3	3.3	3.7	2.3
68	4.5	3.3	3.7	2.3
69	4.8	3.8	3.8	2.5
70	4.7	4.2	3.7	2.4
71	4.5	3.8	3.7	2.4
72	4.8	4.0	4.0	2.8
73	5.0	4.4	4.3	2.9
74	4.9	4.4	4.4	3.3
75	4.7	4.7	4.5	3.5
76	5.0	4.5	4.5	3.5
77	4.4	4.4	4.3	3.6
78	4.5	4.5	4.3	3.8
79	4.0	4.3	4.4	3.8
80	3.9	4.3	4.3	4.0
81	3.6	4.0	4.0	4.0
82	3.2	3.9	3.9	4.0
83	3.3	3.9	3.7	4.1
84	3.1	3.8	3.4	4.0
85	2.6	3.2	3.1	4.0
86	2.4	3.2	2.9	3.8
87	1.9	2.7	2.5	3.5
88	1.7	2.1	2.3	3.6
89	1.4	1.8	1.9	3.2
90	1.3	1.7	1.6	3.1
91	0.9	1.3	1.4	2.8
92	0.7	1.1	1.1	2.4
93	0.5	0.9	0.9	2.3
94	0.4	0.7	0.7	1.8
95	0.2	0.5	0.6	1.6
96	0.2	0.4	0.4	1.2
97	0.1	0.3	0.3	0.9
98	0.1	0.2	0.3	0.8
99	0.1	0.1	0.2	0.5
100	0.1	0.2	0.4	1.2
Total	100	100	100	100

Sources: Calculations by the author. For deaths in 1951: Vital Statistics, 1951. 1989: internal
document from the Canadian Centre for Health Information.

Table A12. Annual Number of International Migrants, Canada,
1900-1990 (in thousands)

Year	Immigrants	Emigrants	Year	Immigrants	Emigrants
1900	42	..	1946	72	38
1901	56	..	1947	64	..
1902	89	..	1948	125	..
1903	139	..	1949	95	..
1904	131	..	1950	74	..
1905	141	..	1951	194	..
1906	212	74	1952	165	..
1907	272	..	1953	154	37
1908	143	..	1954	110	..
1909	174	..	1955	165	..
1910	287	..	1956	282	..
1911	331	..	1957	125	..
1912	376	..	1958	106	76
1913	400	..	1959	107	..
1914	151	..	1960	104	..
1915	37	..	1961	72	..
1916	56	109	1962	75	..
1917	73	..	1963	93	56
1918	42	..	1964	113	..
1919	108	..	1965	147	..
1920	139	..	1966	195	..
1921	92	..	1967	223	..
1922	64	..	1968	184	85
1923	134	..	1969	162	..
1924	124	..	1970	148	..
1925	85	..	1971	122	..
1926	136	97	1972	122	..
1927	159	..	1973	104	70
1928	167	..	1974	218	..
1929	165	..	1975	188	..
1930	105	..	1976	150	..
1931	28	..	1977	115	..
1932	21	..	1978	86	56
1933	14	..	1979	113	..
1934	12	..	1980	143	..
1935	11	..	1981	128	..
1936	11	24	1982	121	49
1937	15	..	1983	89	50
1938	17	..	1984	88	47
1939	17	..	1985	84	47
1940	11	..	1986	99	49
1941	9	..	1987	152	44
1942	8	..	1988	162	35
1943	9	..	1989	192	39
1944	13	..	1990	214	..
1945	23	..			

Source: *Canada Year Book*, Catalogue No. 11-402.

Table A13. Mobility Status of the Population Aged 5 Years and Over
and Aged 65 Years and Over (in percent)

Status	Population aged 5 years and over	Population aged 65 years and over
Non-movers	56.3	78.3
Movers:		
– within the same municipality	24.2	12.7
– within the same province	13.5	6.5
– to another province	4.0	1.4
– outside the country	2.0	1.1
Total	100.0	100.0

Source: Calculations based on data from the 1986 Census, Statistics Canada, *Urban and Rural Areas, Canada, Provinces and Territories* (Part I), Catalogue No. 94-129.

Table A14. Proportion of Non-migrant Movers, Migrant Movers and All Movers
Between 1981 and 1986[1], by Age Group in 1986

Age group	Non-migrant movers	Migrant movers	All movers
15-19	19.4	16.6	36.0
20-24	30.0	28.7	58.7
25-29	41.9	33.3	75.2
30-34	35.1	28.1	63.2
35-39	26.5	21.6	48.1
40-44	21.5	16.5	38.0
45-49	17.7	13.2	30.9
50-54	15.6	11.1	26.7
55-59	14.0	10.6	24.6
60-64	13.0	10.5	23.5
65-69	12.8	10.3	23.1
70-74	12.3	9.2	21.5
75-79	12.0	7.8	19.8
80-84	13.6	6.9	20.5
85 +	11.5	7.5	19.0

[1] Excludes institutional residents.

Source: Statistics Canada, tabulations from the "1986 Census public use microdata file on households and housing".

Table A15. Marital Status of Persons Aged 65 and Over by Sex, Canada, 1951-1991

		1951	1956	1961	1966	1971	1976	1981	1986	1991
Males										
Single	Number	64,840	70,835	72,490	79,490	82,895	83,670	85,930	85,560	92,385
	%	11.8	11.4	10.8	11.1	10.6	9.6	8.5	7.5	6.9
Married[1]	Number	362,245	414,350	461,840	495,070	561,570	647,670	763,990	868,740	1,028,940
	%	65.7	66.6	68.5	69.1	71.8	74.0	75.6	76.7	77.3
Widowed	Number	122,865	135,170	137,280	138,880	130,235	133,345	142,825	153,375	171,620
	%	22.3	21.7	20.4	19.4	16.7	15.2	14.1	13.5	12.9
Divorced	Number	1,355	1,860	2,515	3,120	7,160	10,630	18,115	25,670	37,475
	%	0.2	0.3	0.4	0.4	0.9	1.2	1.8	2.3	2.8
Total	Number	551,305	622,215	674,125	716,560	781,860	875,315	1,010,860	1,133,345	1,330,420
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females										
Single	Number	55,750	62,200	72,890	84,820	102,740	115,250	128,505	134,805	141,160
	%	10.4	10.0	10.2	10.3	10.7	10.2	9.5	8.6	7.7
Married[1]	Number	222,385	257,320	295,645	321,780	377,055	439,025	538,715	642,255	783,995
	%	41.6	41.4	41.2	39.1	39.2	39.0	39.9	41.1	42.6
Widowed	Number	256,200	301,350	346,905	414,035	475,635	561,065	662,210	753,920	859,380
	%	47.9	48.5	48.4	50.3	49.4	49.8	49.0	48.2	46.7
Divorced	Number	635	870	1,600	2,390	7,140	11,575	20,705	33,260	55,010
	%	0.1	0.1	0.2	0.3	0.7	1.0	1.5	2.1	3.0
Total	Number	534,970	621,740	717,040	823,025	962,570	1,126,915	1,350,135	1,564,240	1,839,545
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Includes separated persons and, since 1976, persons living in common-law unions.

Sources: Statistics Canada, Census of Canada. For the 1991 Census, *Age, Sex and Marital Status*, Catalogue No. 93-310. For previous censuses, equivalent publications.

Table A16. Marital Status of Persons Aged 65 Years and Over
by Age Group and Sex, Canada, 1991

		Age group				
		65-69 years	70-74 years	75-79 years	80-84 years	85 years and over
		Males				
Single	Number	33,930	23,470	17,290	10,180	7,510
	%	6.9	6.5	6.8	7.3	8.7
Married[1]	Number	409,415	290,215	191,145	94,280	43,890
	%	83.1	80.8	75.7	67.3	50.9
Widowed	Number	30,620	35,175	38,630	33,320	33,870
	%	6.2	9.8	15.3	23.8	39.2
Divorced	Number	18,530	10,095	5,465	2,355	1,035
	%	3.8	2.8	2.2	1.7	1.2
Total	Number	492,495	358,955	252,530	140,135	86,305
	%	100.0	100.0	100.0	100.0	100.0
		Females				
Single	Number	35,385	32,225	30,380	22,615	20,555
	%	6.1	7.0	8.4	9.6	10.4
Married[1]	Number	356,135	227,860	127,955	52,360	19,685
	%	61.3	49.2	35.3	22.1	10.0
Widowed	Number	161,990	187,900	195,970	158,350	155,175
	%	27.9	40.6	54.1	66.9	78.8
Divorced	Number	27,160	14,960	7,945	3,330	1,620
	%	4.7	3.2	2.2	1.4	0.8
Total	Number	580,670	462,945	362,250	236,655	197,035
	%	100.0	100.0	100.0	100.0	100.0

[1] Includes separated persons and persons living in common-law unions.

Source: Statistics Canada, 1991 Census of Canada, *Age, Sex and Marital Status*, Catalogue No. 93-310.

Table A17.   Labour Force Participation Rate[1] of Persons Aged 50 and Over by Age Group and Sex, Canada, 1951-1986

Age group	1951[2]	1961	1971[2,3]	1981	1986
	Males				
50-54 years	..	..	89.0	91.0	90.1
55-59 years	89.6	81.9*	85.4	83.6	81.8
60-64 years	81.4	..	72.9	68.1	60.4
65-69 years	60.1	47.6	37.0	25.6	22.8
70-74 years	..	..	20.4	13.7	13.1
75-79 years	..	..	12.4	9.1	9.8
80-84 years	..	..	8.2	6.1	5.8
85 years and over	..	..	5.0	3.1	3.1
65 years and over	38.6	28.4	23.6	16.3	13.7
	Females				
50-54 years	..	..	43.4	53.0	57.8
55-59 years	16.3	24.4*	38.8	41.6	43.8
60-64 years	12.4	..	30.5	29.1	27.7
65-69 years	8.5	12.0	13.2	9.3	7.9
70-74 years	..	..	6.4	5.2	3.6
75-79 years	..	..	5.0	3.1	2.4
80-84 years	..	..	3.5	2.2	1.7
85 years and over	..	..	3.3	1.9	1.5
65 years and over	5.1	6.7	8.3	5.4	4.2

* 55-64 years.

[1] From 1951 to 1971, the definition of labour force activity was based on the situation during the week prior to the census. Pensioners were included in the inactive category (that is to say in the denominator). Since 1981, minor changes have been introduced into the definition but the main reason for a discontinuity is that institutional residents are excluded. For this study, in order to ensure an approximate comparison, institutional residents have been added to the denominator in the calculation of the rate.

[2] The Yukon and Northwest Territories are excluded.

[3] Excluding agricultural female workers who worked less than 20 hours without remuneration on a farm or family enterprise.

Source: Statistics Canada, tabulations from the "1986 Census public use microdata file on individuals.

Table A18. Average Total Income in 1985 for Persons Aged 50 and Over by Age Group, Sex and Source of Income[1]

Age group		Total income	Sources of income				
			Income from employment or self-employment	Investment income	Government pensions[2]	Private pensions[3]	Other[4]
				Males			
50-54	$	29,882	26,502	1,622	85	369	1,305
	%	100.0	88.7	5.4	0.2	1.2	4.4
55-59	$	27,702	23,000	2,031	172	1,125	1,374
	%	100.0	83.0	7.3	0.6	4.1	5.0
60-64	$	24,159	16,056	2,722	510	2,968	1,904
	%	100.0	66.5	11.3	2.1	12.3	7.9
65-69	$	19,965	5,479	3,296	5,589	4,010	1,590
	%	100.0	27.4	16.5	28.0	20.1	8.0
70-74	$	16,865	1,844	3,825	7,066	3,392	738
	%	100.0	10.9	22.7	41.9	20.1	4.4
75-79	$	14,830	1,283	3,802	6,534	2,578	632
	%	100.0	8.7	25.6	44.1	17.4	4.3
80-84	$	12,815	625	3,713	6,030	1,822	625
	%	100.0	4.9	29.0	47.1	14.2	4.9
85 +	$	12,295	611	3,775	5,730	1,518	661
	%	100.0	5.0	30.7	46.6	12.3	5.4
65 +	$	17,114	2,976	3,605	6,246	3,255	1,033
	%	100.0	17.4	21.1	36.5	19.0	6.0

Table A18. Average Total Income in 1985 for Persons Aged 50 and Over
by Age Group, Sex and Source of Income[1] – Concluded

Age group		Total income	Income from employment or self-employment	Investment income	Government pensions[2]	Private pensions[3]	Other[4]
				Sources of income			
					Females		
50-54	$	11,095	8,730	1,291	155	134	786
	%	100.0	78.7	11.6	1.4	1.2	7.1
55-59	$	9,732	6,627	1,677	261	357	810
	%	100.0	68.1	17.2	2.7	3.7	8.3
60-64	$	9,077	4,331	2,186	733	719	1,108
	%	100.0	47.7	24.1	8.1	7.9	12.2
65-69	$	10,465	1,230	2,575	4,539	1,176	944
	%	100.0	11.8	24.6	43.4	11.2	9.0
70-74	$	11,030	379	2,936	5,996	1,183	536
	%	100.0	3.4	26.6	54.4	10.7	4.9
75-79	$	10,928	270	2,940	6,071	1,063	583
	%	100.0	2.5	26.9	55.6	9.7	5.3
80-84	$	11,012	199	3,128	6,126	895	664
	%	100.0	1.8	28.4	55.6	8.1	6.0
85 +	$	10,683	190	2,708	6,268	696	822
	%	100.0	1.8	25.3	58.7	6.5	7.7
65 +	$	10,789	625	2,817	5,532	1,095	720
	%	100.0	5.8	26.1	51.3	10.1	6.7

[1] Excludes institutional residents.
[2] Income from Old Age Pensions, guaranteed income supplements, and Canada or Quebec Pension Plans.
[3] Income from Employee Pension Plans, matured RRSPs which are being disbursed in the form of an annuity, etc.
[4] Includes income received from various administrative transfers (unemployement insurance payments for example) and many other sources (alimony or unemployment insurance payment, indemnity for loss of employment).

Source: Tabulations from the "1986 Census public use microdata file on individuals".

Table A19. Percentage Distribution of the Total Income of Persons Aged 50 and Over by Age and Income Group, Canada, 1985

Income group (in thousands)	Age group				
	50-59 years	60-64 years	65-69 years	70-79 years	80 years and over
	Males				
Less than 5	9.9	12.3	5.9	2.2	2.1
5-10	8.5	12.0	23.0	39.1	59.3
10-15	8.8	12.8	22.4	25.9	20.7
15-20	8.9	11.3	15.0	11.9	6.0
20-25	11.0	12.1	9.8	6.8	3.5
25-30	11.5	10.5	7.1	4.5	2.1
30-35	10.5	8.1	4.6	2.6	1.7
35 +	30.9	20.9	12.2	7.0	4.5
	Females				
Less than 5	44.4	46.2	23.2	10.0	4.0
5-10	15.9	21.7	44.6	57.0	67.5
10-15	11.2	10.8	14.3	17.3	15.4
15-20	9.8	7.5	7.0	6.6	5.4
20-25	7.0	5.1	4.0	3.3	2.6
25-30	4.3	3.1	2.6	1.7	1.5
30-35	2.9	2.0	1.3	1.3	0.9
35 +	4.6	3.5	3.0	2.7	2.6

**Table A20.   Proportion of Survivors by Age, Sex and State of Health,
Canada, 1986**

Age	Males		Females	
	All survivors	Incapacity-free	All survivors	Incapacity-free
0	100.0	96.8	100.0	99.3
5	99.0	93.8	99.2	95.2
10	98.8	91.9	99.1	94.0
15	98.7	93.3	99.0	94.0
20	98.2	93.5	98.8	94.0
25	97.5	92.1	98.6	93.6
30	96.9	90.0	98.4	92.1
35	96.2	87.9	98.1	90.2
40	95.4	86.5	97.7	88.3
45	94.3	83.8	97.0	85.5
50	92.5	77.7	95.8	82.0
55	89.4	70.7	94.0	75.4
60	84.6	62.1	91.3	67.7
65	77.3	51.2	87.3	61.5
70	66.9	40.3	81.2	52.9
75	53.4	30.1	72.3	39.1
80	37.5	18.9	59.4	24.3
85	21.8	8.1	42.6	11.4
90	9.4	2.1	23.8	3.3
95	2.8	0.3	9.5	0.5
100	0.3	0.0	1.2	0.0

Source: WILKINS, Russell and Owen B. ADAMS. Health Expectancy in Canada, 1986. In Jean-Marie Robine, Madeleine Blanchet and John Ed Dowd, eds., *Health Expectancy. First Workshop of the International Healthy Life Expectancy Network (REVES)*. Office of Population Censuses and Surveys (OPCS), Studies on Medical and Population Subjects, No. 54. London: HSMO, 1992.

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- In 2036, it is likely that the elderly will represent at least 23% of the Canadian population, and one person in two will be more than 42 years old.
- Almost three elderly persons in four did not belong to the group ten years ago.
- In contrast to many European countries, rural Canada is younger than urban Canada.
- Nowadays one elderly male in ten is a widower – one elderly female in two is a widow.
- From 1951 to 1991 the number of widows increased by 235% – the number of widowers by 40%.
- The elderly account for 36% of all single-person households.
- For women who have never been in the labour force, their sixty-fifth birthday marks an increase in their income.
- For both sexes in Canada, after age 65, half of the additional seventeen years that people will live on average, will be marked by some form of incapacity.